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A WEEKLY JOURNAL,

DEVOTED TO

COLLEGE INTERESTS, SCIENCE AND LITERATURE.

VOLUME X.

From Jan. 6 to June 22, 1872.

NEW HAVEN, CONN.:

CHARLES C. CHATFIELD. & CO., PUBLISHERS.

1872.

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, JANUARY 6, 1872. NUMBER 1.

THE NEW CULTURE IN COLLEGES.

BY PROF. OLIVER MARCY.

The new culture is a patent fact. No man having his eyes free from the scales of prejudice will deny its existence. It has been christened too, by good authority—we thank the noble president for doing it. It was sadlyin want of a name. Its pet name "Science" covered too many shams in instruction and in practice to permit it to have a good reputation with scholars of the old culture who did not know its real character. Hence it was kept out of respectable and dignified colleges. And when from outside pressure it was admitted under the title of the "Scientific Course," it did not come to be respected. We have heard presidents and professors of the institutions in which the courses existed, declare it a failure for purposes of education. It doubtless was a failure in their hands, and as their institutions were able to provide for it. We owe much to West Point, Sheffield, Lawrence and Michigan University for demonstrating that the new culture is a true culture of much value. Henceforth all institutions which provide educational advantages to the public must give the new culture a place.

In the East, where the old culture is hedged in by inherited custom, prejudice and conservatism, and where at the same time there is abundance of means, separate colleges are formed. But in the West we are trying to give the new culture a place by the side of the old in the same college, and as far as practicable on the same seats. Each plan has advantages which do not pertain to the other and each plan has disadvantages peculiar to itself. With separate colleges the dignity of the old culture is not offended by the presence of the presuming upstart, and the modes and the means of instruction are likely to be organized by those who know the subjects with which they deal.

But these are important disadvantages. Perhaps the most important is the loss of the influence of the different cultures upon each other. When parallel courses exist in the same college, in many of the recitations, in the literary exercises of the classes and in the societies of the colleges, the two cultures mingle. The mind which obtains most of its thoughts from one course will be sure to be instructed and sharpened by the mind which has its thoughts suggested by the other course. Higher culture comes only from variety and constrast. The student of matter, force and inexorable law will have a better logic in regard to human affairs if he becomes familiar with mind as seen from metaphysical and historical stand points. And the metaphysician should know that the phenomena of mind are conditioned by matter. The incidental advantages of contact and criticism in college society is *the* important advantage of study in college rather than out of college, and this advantage is greatest where there is widest range of study.

Again, on the score of *economy* the advantage is on the side of parallel courses. Not much gain is claimed in regard to the labor of instruction, for classes in mathematics and the languages cannot be taught well when large, and labor multiplies with the number of students. But still there are whole courses of lectures which may as well be given to 150 or 200 as to a half dozen. The real economy in conducting the two courses together is in the expensive, buildings, libraries, laboratories and museums which with separate colleges need to be duplicated. This saving is very considerable and none but wealthy communities can nurse the two cultures in separate colleges.

But when the two cultures are planted in the same college there is the disadvantage of a "struggle for existence," and it is not always that the "fittest" survives. If it does survive, it frequently has only a dwarfed and insignificant figure. The old culture has the advantage of preoccupation. It has the confidence of the public, as it ought to have. But the new is little understood. It is deemed an experiment. Little is expected of it. It is treated as a "bread and butter course." It is the classical course with the classics left out. It is sufficient for it that it occupies only three years in college with no preparation except that obtained at the common schools. It is left to thrive as the classical course can thrive but as this cannot on books. With such treatment the declaration *is true* that where the experiment of parallel courses has been tried the Scietific Course is a failure for purposes of education. With such limitations it is not a culture of much value and cannot be.

We say what is a truism to scientific men, but what seems to be slowly comprehended by men of the old culture when we say that science *cannot* be taught by, or learned from books. To live and thrive and become acknowledged to be a valuable means of mental development, the new course demands a chemical laboratory well stocked and with tables at which each student can learn chemistry by producing the phenomena himself. It demands a laboratory in physics furnished with apparatus and tables at which each student shall be able to demonstrate every known physical property of matter and every known law of force. It demands a laboratory of natural history with tables also for each student and a collection of, at least, the *types* of all the principal groups in zoology, botany, mineralogy and lithology. And besides the types a large collection of working material for the classes.

Furnished with these means and with good instruction, and with the extra amount of modern languages and mathematics which he will need in his studies, the student has a fair substitute in labor, and in mental discipline for the Latin and Greek of the other courses. To make the parallel more complete, one or two of our colleges which can best afford to do it, are proposing to raise the standard of admission to the new course. The new terms should include Algebra through quadratic equations, the whole of the common text in Geometry and two languages with a year's time upon each. The scientific student needs the French and the German to enable him to use books of reference in his course and the time saved from the study of these in colleges is needed in the study of higher science.

With a definite idea of what the new culture shall be and a little time in which to obtain means and organize the conditions of success we hope our colleges will be able to deny that the new culture in parallel courses is a failure.

Evanston, Ill. Dec. 20. 1871.

BIBLE REVISION.

The idea of a revision of the Bible has for some time engaged the attention of scholars, and already, a committee of the most learned men in England, known as the British Commiitee for the revision of the Authorized English Version of the Scripture is engaged in this work. This committee has recently, through the Dean of Westminster, extended an invitation to American scholars to participate with them in this work of revision. In accordance with this invitation, and at the call of Rev. Dr. Philip Schaff, a meeting was held at No. 40, Bible House, New York city, on the 7th of December last. At that meeting the following gentlemen were present: Prof. Philip Schaff, D.D., New York; Prof. Henry B. Smith, D.D., New York; Prof. Wm. Henry Green, D.D., Princeton, N. J.; Prof. George Emlen Hare, D.D., Philadelphia, Pa.; Prof. Charles P. Krauth, D.D., Philadelphia; Rev. Thomas J. Conant, D.D., Brooklyn, N. Y.; Prof. George E. Day, D.D., New Haven, Ct.; Ezra Abbott, LL.D., Cambridge, Mass.; Rev Edward A. Washburn, D.D., New York and Dr. Howson, Dean of Chester, by special invitation. Ex President Woolsey, Prof. Hackett, Prof. Strong, and others were prevented from attending, but expressed by letter their hearty interest in the proposed work and their readiness to coöperate.

The meeting was organized by the appointment of Prof. Henry B. Smith as Chairman and Prof. George E. Day as Secretary. After which Dr. Schaff stated the fact of American scholars being invited to coöperate, and that he had accordingly extended such an invitation to a limited number of scholars, most of them professors of Biblical literature in theological seminaries of the leading Protestant denominations. In the delicate task of selection, he had reference, first of all, to the reputation and occupation of the gentlemen as Biblical scholars; next, to their denominational connection and standing, so as to have a fair representation of the American churches; and last, to local convenience in order to secure regular attendance on the meetings. He would have gladly invited others, but thought it best to leave the responsibility of enlargement to the committee itself when properly constituted. He had personally conferred during last summer with Bishop Ellicott, Dean Stanley, Prof. Lightfoot, Prof. Westcott, Dr. Angus, and other British revisers about the details of the proposed plan of coöperation, and was happy to state that it met their cordial approval.

The scholars who have been invited by Dr. Schaff to engage in the work and who have accepted are as follows:

ON THE OLD TESTAMENT.

Rev. Thomas J. Conant, D.D., Brooklyn, N. Y.; Prof. George E. Day, D.D., New Haven, Ct.; Prof. John DeWitt, D.D., New Brunswick, N. J.; Prof. Wm. Henry Green, D.D., Princeton, N. J.; Prof. George Emlen Hare, D.D., Philadelphia, Pa.; Prof. Charles P. Krauth, D.D., Philadelphia, Pa.; Prof. J. Packard, D.D., Fairfax, Va.; Prof. Calvin Stowe, D.D., Cambridge, Mass.; Prof. James Strong, D.D., Madison, N. J.; Prof. C. V. A. Van Dyck, M. D.,*Beyrut, Syria; Prof. Tayler Lewis LL.D., Schenectady, N. Y.

ON THE NEW TESTAMENT.

Prof. H. B. Hackett, D.D., Rochester, N. Y.; Prof. Charles Hodge, D.D., Princeton, N. J.; Prof. Matthew B. Riddle, D.D., Hartford, Ct.; Prof. Philip Schaff, D. D., New York; Prof. Henry B. Smith, D.D., New York; Prof. J. Henry Thayer, D.D., Andover, Mass.; Rev. Edward A. Washburn, D.D., New York; Rev. Theodore D. Woolsey, D.D., LL.D., New Haven, Ct.; Ezra Abbott, LL.D., Cambridge, Mass.; Prof. James Hadley, LL.D., New Haven, Ct., Prof. Charles Short, LL.D., New York.

At the same meeting the following constitution for the government of the American Committee was adopted, after consideration, article by article;

I. The American Committee, invited by the British Committee engaged in the revision of the authorized English Verson of the Holy Scriptures, to coöperate with them, shall be composed of Biblical scholars and divines in the United States.

II. This Committee shall have the power to elect its officers, to add to its numbers, and too fill its own vacancies.

III. The officers shall consist of a President, a Cor-

*Not yet heard from. Dr. Van Dyck of course cannot be expected to attend the meetings, but may be occasionally consulted on questions involving a thorough knowledge of Arabic and Shemitic languages.

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responding Secretary, and a Treasurer. The President shall conduct the official correspondence with the British Revisors. The secretary shall conduct the home correspondence.

IV. New members of the Committee and corresponding members must be nominated at a previous meeting, and elected unanimously by ballot.

V. The American Committee shall coöperate with the British Companies on the basis of the principles and rules of revision adopted by the British Committee.

VI. The American Committee shall consist of two Companies—the one for the revision of the authorized Version of the Old Testament; the other for the revision of the Authorized Version of the New Testament.

VII. Each Company shall elect its own Chairman and Recording Secretary.

VIII. The British Companies will submit to the American Companies, from time to time, such portions of their work as have past the first revision, and the American Companies will transmit their criticisms and suggestions to the British Companies before the second revision.

IX. A joint meeting of the American and British Companies shall be held, if possible, in London, before final action.

Also at the same meeting a communication from Bishop Ellicott, D.D., to Dr. Schaff, dated Oct. 23, 1871 was read containing the following resolution:

Resolved, That the Bishop of Gloucester and Bristol be requested to communicate with Dr. P. Schaff to the effect that the work of the New Testament revisers is, at present only tenative and provisional, and that it may be considerably altered at the second revision; but that upon the assurance of Dr. Schaff, that the work, so far as it is at present advanced, will be considered as *strictly confidential*, the Company will send a sufficient number of copies for Dr. Schaff and his brother revisers, for their own private use, the copies to be in no way made public beyond themselves.

"For this purpose, that Dr. Schaff be requested to send the names and addresses of the scholars associated with him in this matter so soon as the Company is completely formed."

From the action of the British Committee as detailed above and the hearty seconding of their invitation by American scholars, of such note, it will be seen that the much talked of project of a revision of the Scriptures in accordance with the present state of modern Biblical and classical knowledge has a fair prospect of realization, and when it is remembered that the number of those who will read the English Bible, will not be less than a hundred and fifty millions at the end of the present century, some idea may be formed of the magnitude of what is proposed in giving to those who speak the English language a revised version of the Scriptures.

OBERLIN—ITS ORIGIN, PROGRESS, AND PRESENT POSITION.

Oberlin has a wonderful history, and the principles and results, both of the colony and literary institution, bearing the name of the renowned Swiss pastor are worthy the consideration of the scholar and the patriot. The idea of a strictly religious community, and conducted on Puritan principles, originated with Rev. John J. Shipherd in 1832, at that time pastor of a church in Elyria, Ohio. Associated with Mr. Shipherd in the development of Oberlin was Mr. P. P. Stewart, once a missionary among the Cherokees in Mississippi at this time a member of Mr. Shipherd's family, and afterwards famous as a manufacturer of stoves in Troy, N. Y. These two gentlemen thought, and prayed till they were prevaded with the idea that they had a mission to perform in establishing on the Western Reserve, as the northern part of Ohio was then called, a model Christian school and colony. A tract of land, three miles square, was found in the town of Russia, Lorain county, Ohio, entirely uninhabited, and purchasable at the low price of $1,50 per acre, as it was of an uninviting appearance. This was secured for the proprietors, who gave 500 acres in the center as a site for the proposed institution. A circular was issued inviting settlers and setting forth the plan of the school, much as it was afterward carried out. The plan proposed a school for both sexes with preparatory, moral, collegiate and theological departments. The land was offered to actual settlers at an advance on cost of one dollar per acre, but all purchasers were required to sign what was called the "Oberlin covenant," by which they bound themselves to a community of interest, so far as was consistent with personal management of their estates, abstinence from all intoxicating drinks, tobacco and even tea and coffee, great plainness in the style of living, and consecration of all surplus earnings to the service of the Lord. The first colonist, Peter P. Pease, pitched his tent, on what is now the college square, April, 19, 1833, in the midst of the primeval forest, with no neighbor nearer than three miles. Other colonists, however, soon flocked around him, chiefly of New England origin, and Oberlin hall, the first college building, was erected during the summer, and the school with 46 students was opened in December under the charge of a Mr. Scoville.

Mr. Shipherd was enthusiastic on the subject of manual labor, and his plan involved a self sustaining institution. The instructors were to receive small salaries, and the students were to pay their way by working on the farm, in the shop, and the boarding-house. To carry out this plan an institution farm of 800 acres was reserved, a work shop erected and furnished with tools. All the students were required to work four hours each day, the young men on the farm or in the shop, and the young women in the kitchen. The prices paid for the work ranged from three to seven cents per hour, and the price of board was 75 cents per week for the women and a dollar for the men. The circular at the close of a year's experiments says: "The testimony of one year's trial is, that students by four hours daily labor may preserve their health, clear and invigorate their minds, guard against morbid influences, earn their board and yet facilitate their progress in scientific attainments. The most delinquent in manual have been the most deficient in mental labor."

In 1834 the first regular college class was organized and a "commencement" held, in which the speakers were freshmen just commencing, instead of just finishing, their college course. The number of pupils the first year was 100, taught by Messrs. Waldo, Dascomb and Branch, all graduates of eastern colleges. The town grew in the same ratio with the institute. What the character of the population was may be inferred from the account of one. "Ex uno disce omnes." Mr. Horace Crosby, a native of Berkshire county, Mass., started afoot and alone for Ohio in 1818 when 18 years old, to seek his fortune. From Batavia, in New York, his route lay pretty much through an unbroken forest. Deer were more plenty in this country then than are sheep now, and bears and wolves more than plenty enough. He reached his destination, the Western Reserve, in 18 days. The country was rapidly filling with Yankee emigrants, and Mr. Crosby was soon employed sa a school-master at $16 per month, to be paid in whiskey, as money was scarce, and barter was the custom. In four years our hero had earned enough to purchase a farm and erect a log house. He now returned on foot to Massachusetts to bring out his mother and some furniture, which he accomplished by means of an ox team and an emigrant wagon. His second trip westward was more tedious than his first, as he had to earn his passage by driving his oxen and by the care of them nights. Nothing daunted he reach his log cabin safely, and had some venison for supper. He continued to teach school winters and to work on his farm summers, for six or seven years, and he says he never enjoyed life more than in his log cabin amid the forests. On the establishment of Oberlin, he bought a farm just outside the limits of the corporation, but near enough to avail himself of the privileges of the church and school, His education and natural abilities soon brought him into notice among his peers, and he was made an officer in the church, and from the first he had stood shoulder to shoulder with brothers Finney and Morgan—all men are brothers at Oberlin—and he lives to see and enjoy the triumph of the institution in which the third Crosby generation is now being educated. At the recent Oberlin council I had the pleasure of seeing Mr. Crosby, and learning much from him of the early history of the place and college. He is one of the few of the old pioneers left who keep up something of the original simplicity of living, as is evidenced by the coarse cotton collar of his shirt and his rough boots. As I looked at him I could not help thinking of a recommendation which a Berkshire wag once gave to a young merchant who asked for a letter of credit as he was about to visit the city to make purchases:—

"He looks rusty,
But he is trusty."

Mr. Crosby told me the Lord had prospered him, and although some rogue—Satan is not wholly exiled from Oberlin—had recently stolen from him $4,100 in United States bonds, he still had a competence.

Oberlin was founded just as Garrison in his Liberator was fulminating his anathemas against slavery, but anti-slavery principles do not seem to have influenced Father Shipherd in his first movements. The reverberations of Garrison's thunderbolts had probably not reached Ohio. Oberlin, however, furnished just the soil in which anti-slavery seed could take root, and in 1835 the seed was planted here abundantly. Lane seminary, a theological institution at Cincinnati, at this time under the presidency of Dr. Lyman Beecher, was filled with a hundred students, many of them from western New York and northern Ohio, energetic and self-relying, who had earned their passage to Cincinnati as hands on the Ohio flat-boats. Among them was Theodore D. Weld, whose eloquence afterward fired the northern heart against slavery. At Cincinnati these young men were seperated from the workings of the "peculiar institution" only by the Ohio river, and, very naturally, this institution came in for a share of their thoughts and discussions. The more they thought and discussed, the warmer grew their zeal in favor of liberty, and they requested of the faculty the use of the chapel for more public discussions. Dr. Beecher and Prof. Morgan, afterward distinguished as leaders in the anti-slavery cause, recommended non-agitation, but did not prohibit the discussion, and for eighteen successive evenings the chapel resounded with the eloquence of Weld and others. The students did not confine themselves to talk. They established Sabbath and day schools for the instruction of negroes, and published their sentiments in the journals.

The result was that the trustees of Lane seminary, most of whom looked on slavery in its commercial rather than its moral aspect, forbade the students to discuss the subject any further, not allowing them even to make it a matter of table talk. This was a gag-law which the students could not swallow, and four-fifths of them withdrew from Lane seminary. Prof. Morgan, whose sympathies were with the students, was unceremoniously dismissed. About this time Mr. Shipherd visited Cincinnati for the purpose of raising funds for Oberlin. There he met Rev. Asa Mahan, pastor of one of the Cincinnati churches. Mr. Mahan had been a trustee of Lane, but had resigned when he found that his associates were determined to prohibit freedom of discussion. Mr. Shipherd was soon inoculated with anti-slavery principles, and wrote immediately to Oberlin, urging the appointment of Dr. Mahan as president and John Morgan as professor, and the passage of a resolution admitting colored students. This was a great step to take and was not taken without warm discussion and intense excitement. Some of the students declared they would not remain to associate with black men, and the

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young ladies were specially excited, saying they would go home if they had to wade Lake Erie. Rev. John Keep, formerly of Baltimore, but at this time settled in this city, was president of the board of trustees, and the board being equally divided on Mr. Shipherd's resolution, gave the casting vote in its favor. Who can calculate the influence of that vote of Father Keep, as he was afterward familiarly called at Oberlin. It was not difficult to trace it to the mighty influence which Oberlin ever after exerted in the cause of freedom, resulting finally in the election of Lincoln and the overthrow of slavery. Before the passage of this resolution Mr. Mahan had been elected president and Mr. Morgan professor, but their acceptance of these offices hinged on the admission of students without the distinction to color. They immediately accepted the appointments and with them was associated Rev. Charles G. Finney of New York, the distinguished revival preacher, each with a salary of $600, which remained unaltered till the commencement of the late war.

The seceding Lane students now quite generally migrated to Oberlin, and the institution became thoroughly anti-slavery. The place was already overflowing with students, and to accommodate the new comers it was necessary to erect a new building, and Cincinnati hall was extemporized at short notice. This was a building 144 feet long, 24 feet wide, and one story high, its walls, partitions and floors being made of green beech boards, battened on the outside with unbarked slabs. One end of this hall was fitted up as a kitchen and dining-room, and the remainder divided into rooms 12 feet square, with one window, and a door opening upon the still unbroken forest. Two students occupied each room, Such was Oberlin at the beginning. The revolution in the public sentiment was pretty thorough among the students and citizens of Oberlin, but extended slowly at first into the immediate neighborhood, and the institution was looked upon as a den of unclean beasts. Clergymen and laymen alike regarded the place with suspicion, as the hot-bed of all manner of isms. The very guideboards that directed the traveler to Oberlin, were caricatured with pictures of runaway negroes. The schools which the students taught were called "nigger" schools, and Oberlin was a synonym for abolition and heresy. The ruffianism of the Missouri border had its prelude on the Western Reserve.

In spite of opposition, the schools flourished and the town grew. The opposition only served to cement the unity between faculty, students and citizens. Never was a place in which liberty, equality and fraternity were better exemplified. The professors felt a paternal interest in each student, and the students addressed their teachers as brothers Finney, Morgan, Cowles, etc. The Lane students brought with them one colored man, and when he first made his appearance, the boys of the street ran home saying, "The niggers have come," and the lips of some curled in contempt. The number of negroes increased slowly until they constituted from 5 to 8 per cent of the students, and here the ratio remained quite fixed. No special pains were ever taken to enlist colored students. The principle of Oberlin was and is, "That all men are born free and equal," and the longer the students of different hues and nationalities looked at each other face to face, the more they felt the common brotherhood of man. Comparatively few of the colored students have gone through the regular college course. Most of them have been content with the studies of the preparatory department. In all 40 have graduated, 23 men and 17 women, "most of whom," President Fairchild says, "have occupied a fair position among their fellows in scholarly attainment and cultivation, and one of them had no superior in literary taste, or ability as a linguist." This is high praise and, confounds the doctrine of those who contend that the negro belongs to an inferior race.

In the midst of much opposition, Oberlin has never wanted fast friends. Arthur Tappan, one of the pioneers in the anti-slavery cause, when he heard of the secession from Lane Seminary, wrote to the seceding students, offering to build them a hall and endow a professorship, if they would establish an anti-slavery institution. This promise he made good at Oberlin, and Tappan hall, a brick building, still stands a monument of his benevolence. Probably no college building in the country has witnessed more furore of devotion, and zeal for humanity. The old hall shows the marks of the tooth of time, and a new building is much needed to accommodate the wants of the students. There was originally 100 rooms in it, some 15 feet long by 8 feet wide, with one window in each, looking more like cells for criminals than rooms for students, but in each room two were accommodated, or, more properly, discommoded. From the commencement the citizens have opened their houses for boarding the students, as not half of the thousand usually assembled here could eat or sleep in the college buildings. I should not object if dormitories were dispensed with entirely. Students leading the monastic life of a dormitory are apt to become a little rough, and to this Oberlin students are not an exception, though their monastic life is modified by meeting young ladies at their boarding places, in the chapel, and in the recitation room. I was particularly struck with the contrast in the appearance of the students in Tappan hall, and those in the dining hall of the building appropriated to the ladies.

CLASSICAL EDUCATION.

It is a painful truth that comparatively few of the young men and women of the Church are pursuing a classical course in our colleges. Many of our people possess adequate means to educate their sons and daughters if they fully appreciated the value of thorough intellectual culture. The parental affections of not a few would prompt them to confer this rich boon on their children if they knew its great value. No earthly legacy can equal it. Parents, by thoroughly educating their children, may best ensure to future generations that intelligence, respectability, and usefulness so worthy of the ambition of noble-hearted fathers and mothers. A failure to properly educate their sons and daughters may throw their children's children into those ranks where lack of culture depresses from generation to generation. By education their children may become eligible for nobler connections in life, and they and future generations may greatly honor their parents. By failure to educate their children, parents may bequeath to their country a posterity to be pitied rather than honored. If parents who give society well educated children to perpetuate mental culture through succeeding generations deserve their country's gratitude, what shall be said of those who, having the necessary means, allow their children, possessing good natural endowments, to remain in ignorance? There is great responsibility resting on parents in this particular.

Carelessness about beginning the education of their children is a great fault in parents. It is true that it is not best to graduate children at too early an age. In some cases it may be delayed till a few years after they have reached their majority. But as it takes six years—including two preparatory years—to complete a classical course, it is important that a considerable part of that course should be passed before the student reaches the age of twenty-one. After this the claims of settlement in life and active pursuits are likely to interfere if the remainder of the course be long. Besides, what is learned early is learned more easily, is longer retained, and is best adapted to practical use.

The benefits of a partial college course are not to be discredited. It is well for those who can do no better to spend two or three years in college. But there are few who ardently desire it who may not pursue a full collegiate course. They may have to endure privations and hardships, but they will perhaps come out the better disciplined in consequence of those trials. Their progress may be impeded by circumstances, but with firmness of purpose and indomitable wills they are likely to surmount every difficulty and come out efficient graduates. The fixed truth that a thorough education is the surest way to achieve high success should animate them amid all their toils and discouragements. Not only will the knowledge acquired be of great use to them in life, but the mental discipline received will be of invaluable service in any pursuit requiring mental power and skill. The training of the mental faculties to think and work with precision and strength is the great end aimed at in a classical education.

Some may be disposed to linger over the past, and talk of the good times of days when collegiate education was less urged. We have no sympathy with the disparagement of laborers of other years, but we must deal with the present. We do not doubt the happiness of our fathers who had neither reaping-machines nor railroads. But who would propose to go back to the exclusive use of the reap-hook and mud-wagon. Great men have honored their race and served their God efficiently without the best facilities for acquiring literary and scientific knowledge. They were self-taught. They were educated at home, and in active life. Their honor will not decline. But our age demands better opportunities. If we would go back to the past we would do just what our honored fathers would not have done if they had lived in our day. They were enterprising and progressive. We ought to emulate their zeal, and push forward the good work inherited from them. As a church, we need a revival on the subject of education. We are able to build up our colleges and biblical seminaries. Not only do we need such a revival, but the whole country needs it. Let us as a people do our part toward promoting it.—*Exchange.*

Profanity.—An interesting incident is recorded in the life of Cæsar Malan, the eminent evangelical reformer of Geneva. He commenced his career as an instructor of youth, and though, from his childhood up, he had been of a singularly thoughtful nature and was early in life the subject of converting grace, the bad habit common among his countrymen of using the Creator's name both lightly and frequently, clung to his speech. Without knowing it, he used it in the school among his pupils, and, perhaps, might not have been aware of it, but the example was followed by the scholars. There the name of the great God coming thoughtlessly from their young lips struck him painfully. He was about to reprove them, when conscience reproved him. "I do this myself, how can I blame them?"

He instantly resolved on an amendment. Calling the boys around him, he told them this way of speaking was wrong; and he made an agreement that they were to watch him and he would watch them, so as to correct what he thought to be a sinful practice.

He was very guarded for two reasons; he wished to avoid the sin, and, as a schoolmaster, he wished not to give his pupils an opportunity of correcting him. At length, one day, when he was speaking with great animation to the school, he used the words, "*Mon Dieu.*" (My God.) Instantly all the scholars rose, and very respectfully remained standing. He inquired the cause, and the head boy replied by telling him of the name he had used. The good master stood still for a moment, confronting his boys, and in a grave and sorrowful tone then expressed his contrition for his fault; afterward kneeling down among them — they kneeling also—he offered up a prayer that God would pardon the past, and give his grace, that in the future his name might be honored among them and his command obeyed.

Doubtless that touching scene was never forgotten by those present; it never was by the master, for he must, long years after, have related it to the son who has written his life. Happy the man who has the humility openly to own his faults to those whom his example may have injured, and the wisdom to go to the strong for strength to overcome them. Reader it is written, "The Lord will not hold him guiltless who taketh his name in vain."—*Congregationalist.*

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SCIENTIFIC.

The Bat's Wing.—Dr. Schobl has found that the wing of the bat and the ear of the white mouse are abundently provided with nerves, apparently for the purpose of supplying, by means of a very refined sense of touch, the imperfection of vision. He estimates the number if nerve endings on each ear of the white mouse at 6000.

Encke's Comet.—Mr. Asaph Hall of the Naval Observatory, Washington, urges the importance of special observations during the present visit of Encke's comet, in order to settle the question whether its motions are retarded by a resisting medium. The other principal comets of short period, Faye's and Winnecke's, do not appear to be affected by any such retardation.

Prepared Wheat.—M. Sezille has described, before the Agricultural Society of France, a method of preparing wheat by which he claims that out of one hundred pounds of wheat twenty pounds more of bread are obtained than by the ordinary method of grinding and bolting, representing an increase of about twenty-five per cent. of the nutritive value.

Beet-root Sugar.—The production of beet-root sugar in France now employs more than four hundred factories, and the process of manufacture is each year brought to a higher state of perfection. There are three or four French journals specially devoted to subjects connected with the cultivation of the root, th manufacture and sale of the sugar, the chemistry of the process, the machinery required, etc.

Meteoric Iron.—A Swedish scientific expedition has recently returned from the coast of Greenland, bringing more than twenty masses of meteoric iron, which were found on the surface of the ground. The largest weighs more than 49,000 Swedish pounds, or about 21 tons English, with a maximum sectional area of about 42 square feet. It has been placed in the hall of the Royal Academy of Stockholm. The removal to a more southern climate causes them to disintegrate, and it is proposed to preserve them in a tank of alcohol.

Artificial Milk Used in Paris during its Siege.—When natural milk became scarce in Paris, Dubrunfaut proposed an artificial milk made by dissolving 1½ ounces of sugar in a quart of water, adding an ounce of dry albumin (from white of egg) and 15 to 30 grains of soda crystals, and then emulsionizing therein from 1½ to 2 ounces of olive oil. As the war progressed, gelatin was substituted for the albumin, and then slaughter-house fats—purified by melting at 150° and then projecting into them small quantities of water, —for the olive-oil. One firm made in this latter way, 132,000 gallons of milk daily for Paris consumption.

Longitudes.—The great accuracy with which differences of longitude can be ascertained by the magnetic telegraph is illustrated by some of Mr. George W. Dean's determinations for the United States Coast Survey. Observers were stationed at Cambridge, Omaha, Salt Lake City, and San Francisco, and additional repeaters were used at Buffalo, Chicago, Cheyenne, and Virginia City. The longitudes were estimated by four different combinations of circuits, the telegraphic distance of San Francisco from Cambridge being three thousand five hundred and eighty miles. The greatest difference between any two determinations was twenty-eight thousandths of a second, equivalent to about thirty feet, the mean error being less than one millionth of the distance.

Aeronautic Compass.—The efforts to keep up communication between Paris and the outer world during the recent siege led to the invention of several ingenious contrivances connected with ballooning, not the least interesting being M. Janssen's aeronautic compass, the object of which is to enable the aeronaut to ascertain at any moment both the speed and direction of the balloon. It consists of a graduated glass disc with a hole in the center; at a certain distance above the central hole is fixed a small eye-hole, and on one of the points of the circumference of the disc is fixed a small compass. The apparatus is suspended perpendicularly outside the car. It may be mentioned in this connection that, in a communication to the Academy of Sciences, M. de Fonvielle expressed the opinion, as the result of his experience, that no attempts at the direction of balloons will succeed except above the clouds.

Patina of Bronze.—The term "patina" is used to designate a beautiful greenish coating which forms naturally upon the surface of bronze, especially that of copper and tin, under the influence of the air and moisture; consisting in most cases of a carbonate of copper which adheres very closely, and not only imparts as beautiful appearance to the metal, but also protects it from further oxidation. The formation of this patina proceeds with varying degrees of rapidity in different localities. In some places, especially in large cities where coal is burned in considerable quantity, it does not develop itself, the metal assuming the appearance rather, of a dirty cast iron. The difference in this respect has received the attention of a scientific body in Prussia, under the direction of which, numerous experiments have been made; and it has been ascertained that the formation of a good patina was not dependent upon the composition of the bronze, although the time required for this development may have something to do with the percentage of the different ingredients. It was furthermore discovered that by occasionally washing articles of bronze, exposed to the atmosphere, applying oil, and afterwards rubbing off with a soft rag all of this that could be removed, in the course of a few years a patina of the finest quality is developed irrespective of the location; and in this way the desired result can be, and actually has been produced on objects that had long refused to put on this exterior.

Wonders of Easter Island.—In the middle of the Pacific Ocean, three thousand miles distant from the nearest continent, rises Easter Island, abounding with remains of a remote antiquity, which have interested and perplexed a party of savants who recently visited them. The island is about forty miles in circumference; it is barren, without trees, destitute of resources, and inhabited by a few savages, who lead the most miserable existence imaginable.

But upon this narrow strip of land, so barren and unproductive, the eye of the explorer beholds a forest of gigantic stone statues, of the origin and meaning of which the race dwelling around know absolutely nothing. The smallest of these statues measure thirty feet, and a few attain the incredible dimensions of fifty feet. Some repose upon cyclopean platforms; the greater portion of them wear crowns about six feet in height, formed of volcanic tufa, which have evidently been placed upon these statues after their erection. The foreheads of these statues are retreating and the mouths prominent, which indications may possibly reveal the race who constructed them.

As regards the workmanship displayed upon them, it is rude and clumsy, although not destitute of character and expression. The questions concerning them, presented for solution are: What do they represent? whose handiwork are they? and how came they there? There are no metals on Easter Island, not even flint; only a few hard species of stone are found capable of being fashioned into axes, with which perhaps these mysterious statues were hewn. The stone of which they are composed is found neither upon this island nor any of the surrounding islands; their number, dimensions, and character, forming a strange contrast to the narrowness and poverty of the place whereon they were constructed.

How could this barren island have nourished a race of men capable of raising such mountains? Where is this race? What country do they still inhabit? In reply to these speculations, several scientific men of great authority hazard the opinion that the island in question is only one of the summits of the submerged continent which geological evidence proves at one time to have occupied the whole part of the Pacific which is now called Polynesia. Several also show grounds that the statues in question present a Mexican physiognomy, and may have been the work of one of the kindred races of that people. Several of these monuments are now on their way to the British Museum, where, it is hoped, additional light will be thrown upon them.

The Rotation of the Sun Measured with the Spectroscope.—One of the most wonderful achievements of that remarkable instrument, the Spectroscope, is that just announced by a German astronomer, Dr. Vogel, who has successfully applied it to ascertain the rotation of the sun. The form of instrument used by him was that proposed by Zöllner, and known as a reversion spectroscope. As originally constructed, it consisted of two direct vision prisms, with their refracting angles facing opposite ways. Hence a beam of light falling upon them produces two spectra, one of which has the colors above the other, and in an inverse order. The object-glass being divided horizontally, and each half being movable micrometrically, it is possible not only to juxtapose, but even to superpose the spectra, and to measure the distances of the lines with great accuracy. The instrument was devised for the purpose of measuring the direction and velocity of astronomical motions, one of the problems proposed by the inventor being the very one now solved by Dr. Vogel. If the two spectra in the instrument represent, as they may be made to do, different and opposite limbs of the sun, then, since one is approaching us and the other is receding from us, there ought to be a difference in the position of certain spectrum lines. The difference in velocity is about a mile per second; an amount which Zöllner says ought to change the position of the sodium lines by a quantity equal to $\frac{1}{80}$ of the distance between them. With his instrument as originally constructed, he was unable to observe any displacement; but with a more powerful instrument, consisting of a circular train of five highly dispersive prisms thus arranged, which he furnished to the observatory at Bothkamp, near Kiel, Dr. Vogel has been able to detect a displacement of the fine line F of the solar spectrum, by an amount which gives a velocity of rotation of 3276 meters—about two miles—per second. Subsequent observations, made with more care and with a higher dispersive power, have reduced this number to 2497 meters—1.55 miles—per second. This is only 500 meters more than the velocity given by Carrington's observations on the spots, which was 1997 meters—1.24 miles—per second; an approximation which is remarkable.

On Burnt Iron and Burnt Steel.—An English chemist, W. Mattieu Williams, has recently made a series of experiments to ascertain the condition which is induced in iron and steel by overheating, and which is technically called "burning." Burnt iron is brittle, has a short fracture, is crystalline, and is devoid of the fibrous structure and silky luster of good iron. Mr. Williams finds that iron in this condition contains, diffused through it, small particles of black oxide. Hence to test the question, often important in practice, whether a given sample of iron is burnt, he places about a deci gram in a test-tube, and pours upon it three cubic centimeters of nitric acid of sp. gr. 1.20. If the iron is burnt, these particles of black oxide are at first left undissolved, and, appearing in the liquid, render it dark and turbid. Their subsequent solution distinguishes them from the carbon which may also be present in the sample.

Mr. Williams believes that the function of the small quantity of carbon always contained in good wrought iron, is to prevent this burning. When this carbon is removed, the iron partially oxidizes throughout as soon as heated, and becomes "burnt." Hence the impossibility of making merchantable iron by the Bessemer process;

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the iron, at this high temperature, beginning to oxidize even when the carbon present is as much as 0.25 per cent. The Bessemer product is steel therefore, and contains 0.28 per cent. of carbon.

Iron has its maximum toughness when the carbon is lowest. The skill of the blacksmith is shown therefore in exactly touching, in his work, the point at which the oxidation of the carbon ceases and that of the iron begins, without passing it; thus attaining the best result.

Steel, on the other hand, when "burnt," is brittle, can no longer be tempered, and cannot be used until it has been raised to a welding heat, rolled or hammered, and gradually cooled. Its fracture is coarse and granular, the facets of the granules being conchoidal, by which the burnt condition may often be practically distinguished. Mr. W. finds that when steel is heated, the carbon in it rapidly oxidizes, even throughout the mass. He explains "burnt" steel to be steel in which, by suddenly solidifying it when in a viscous condition, carbonic oxide evolved by the oxidization of carbon, is imprisoned. By slower cooling this carbonic oxide would have been expelled; hence the cavities or "toad's eyes" in the steel; which may be removed by welding, which operation, as above stated, restores the steel.

"Burnt iron" and "burnt steel," therefore, both owe their rottenness to intermingled particles of combustion-products; coming in the latter case, from the carbon; and in the former, from the iron itself.

THE ENGLISH UNIVERSITY BOAT RACES.

The challenge of Oxford to row the annual boat race was accepted by the Cambridge club at a meeting on the 2d inst., and on that day the Cambridge trial eights rowed a race against each other, which is thus described by the Pall Mall Gazette:

The trial eights of Cambridge, from which will be selected the necessary recruits for filling the vacancies in the ranks of the old guard, were rowed on Saturday over the two-and-a-half mile course from Ely to Littleport. Oxford, in 1859, was the first to start this system, which brings into notice so many more men than the former plan of trying all likely men in one kaleidoscopic university eight, besides giving to aspirants for broad-blue honors a public trial before they risk the reputation of their flag in the more important race. Cambridge later on followed suit to the principle, and now every club of note that aspires to bring out an eight for the year for the grand challenge at Henley, or any similar race, adopts the same tactics. Mr. J. H. Goldie, recently reëlected president of the Cambridge University boat club for a third year of office, was umpire and starter to the two crews, which were composed as follows:

	st.	lb.
Bow. G. Drinkwater, 3d Trinity	10	4
2. J. B. Close, jun., 1st Trinity	11	6
3. A. G. Tyndall, King's	12	2
4. G. M. Robinson, Christ's	12	1
5. T. E. Hughes, Jesus	12	9
6. A. D. Davidson, Clare	11	11½
7. J. R. French, Emmanuel	11	8
E. Baggallay, Caius (stroke)	12	0
C. H. Roberts, Jesus (sox.)	6	8½
Bow. G. L. Rives, 1st Trinity	10	6
2. W. Davy, Trinity Hall	10	10½
3. L. R. Flood, Jesus	11	10
4. E. E. Sawyer, Lady Margaret	12	7½
5. C. S. Read, 1st Trinity	12	8
6. A. M. Phelps, Sidney	11	6
7. A. R. Malden, Trinity Hall	11	5
C. H. James, Lady Margaret (stroke)	10	7½
F. C. Bayard, Lady Margaret (cox.)	7	6

The race was a pretty evenly contested one for Cambridge trial eights, which, somehow, are never so evenly selected and matched as those of Oxford, where a dead-heat has twice been rowed over the Nuneham course, and where, on another occasion, only six inches have divided the boats at the finish. Mr. James's crew got a lead at the outset, by dint of rowing the faster stroke, but in a hundred yards the other crew collared them, and made a pretty even race for half a mile or so. After this point it was evident that Mr. Baggally's crew was too strong for Mr. James's and, drawing away steadily and surely, it by some daylight at half-way, and stalling off a spurt or two on the part of the sternmost boat, increased its lead towards the last and landed itself winner by about a clear length. The rowing was fair, but not very excellent; it was clean and decently uniform. But there was no great amount of powerful material in either boat, such as will be required to fill vacancies from the heavy weights of last year. The crews were composed entirely of new men, whereas at Oxford this year, in the trial eights which will be rowed on this day week, two members of the old crew are rowing—a custom which, though not often adopted by either boat club, must be always beneficial to the old hands, who are thus cured of faults which they may meantime have contracted in their college career, and are remodelled and brought out up to concert pitch by the spring, instead of running the risk of going to seed, and of being surpassed by new hands with the recent polish of coaching fresh upon them. Of course the presence of old hands to some extent limits the selection of new material from which the president is too choose, but it depends upon what that new material is whether it is worth while attempting to polish too large an amount of it, to the exclusion of tried and seasoned veterans, who need but a few admonitions to restore them to their former standard of style and form.

After next Friday's racing, we shall be better able to compare the material in either university for the ensuing race of next year. At present our opinion is that in neither case is it beyond, even if it is up to the average. Of the last winning Cambridge crew, five men will probably row again, the absentees being Nos. 3, 5 and 6—three of the most powerful and valuable of the team. At Oxford three only will remain,—stroke, 2 and 4,—for five, though he will be in residence, is, we understand, not likely to row again.

YALE PERSONALS.

11, MORSE.—The following facts additional to those published in our last issue, in reference to the late Sydney E. Morse may be of interest: Mr. Morse was for 35 years (till 1858) the senior proprietor of the *Observer*, and a large part of the time its leading editor. His younger brother, Richard C. Morse, (Yale, '12), who died in 1868, was associated with him in founding and conducting the *Observer* under the firm of Sidney E. Morse & Co. Sydney E. Morse, Jr., (Yale '56), now at the head of the *Observer* managers, is son of Richard C. The oldest brother, Prof. Samuel F. B. Morse, (Yale, '10), the celebrated painter and inventor of the magnetic telegraph, is now the only survivor of the three sons of Rev. Jedediah Morse, D.D. (Yale, 1783), who were graduated at Yale in 1810-11-12. Sidney E. Morse was the first editor, and Nathaniel Willis, father of Nathaniel P. Willis, (Yale, '27), and Richard S. Willis, (Yale, '41), was the first publisher of the Boston *Recorder*, (now published in connection with the *Cong.egationalist*), the oldest religious newspaper in the world.

'38, STRONG.—Rev. Edward Strong, D.D., of Pittsfield, Mass., is now supplying the pulpit of the Congregational church at Lenox, Mass.

'47, WILCOX.—Died, in Stamford, Dec. 21, of apoplexy, Mrs. Sarah J., wife of Wallace C. Wilcox Esq.

'53, BISHOP.—Gen. A. W. Bishop, from Little Rock, Arkansas, was in New Haven last Saturday, on business connected with the Industrial University of that state, the first "circular" of which he brought with him. He is treasurer of the institution, which is located at Fayetteville, and has the benefit of National, State, County, and Town financial aid.

'58, HUBBELL.—Rev. Wm. L. Hubbell, pastor of the South Evangelical church at West Roxbury, Mass., has received a call to the pastorate of the Franklin St. church East Somerville, Mass.,

'62, MURPHY.—Rev Thomas D. Murphy has resigned his pastorate of the Congregational church at Granby, Ct., to take effect April 1, 1872.

'63, MCNEILLE.—Rev. R. G. S. McNeille was at his own request, regularly dismissed from his pastorate of the East Congregational church in this city by an ecclesiastical council convenedon Thursday, Dec. 28.

'66, BRAND.—Married in, Troy, Ohio., Nov. 30, Rev. James Brand, pastor of the Mable St. church, Danvers Mass., and Miss Juliet H. daughter of Rev. Daniel Tenney of Troy.

'68, HUME.—R. A. Hume, who is at present teaching in Edwards Place School, at Stockbridge, Mass., was in New Haven one day last week. In addition to his duties as teacher, he has part charge of a church in South Lee, preaching every Sunday.

'69, THAYER.—John M. Thayer, who was admitted to the bar last spring is now practising law in Burlington, Iowa.

'70, HUME.—E. S. Hume is at present principal of the High School in Middlebury, Mass.

'70, JEWETT.—F. F. Jewett continues to teach Mathematics and Natural Sciences in Norwich Free Academy. He is paying particular attention to Chemistry. He was in New Haven last week.

'71, ANDREW.—S. W. Andrew is at present engaged as shipping clerk for the firm of Amidown, Lane & Co., No. 87 Leonard street, New York City.

'71, ARCHIBALD.—R. W. Archbald is studying law in Scranton, Penn., in the office of Hand, (Yale, '57) & Post, (Yale '60).

'71, AUCHINCLOSS.—F. L. Auchincloss is at present in the banking-house of Vermilye & Co., No. 16 and 18 Nassau street, N. Y. City.

'71, BANKS.—James Banks, after remaining a time at the Harvard Law School, has returned to his native place, Atlanta, and is there pursuing the same avocation.

'71, CLARK.—C. H. Clark is at present engaged as news editor on the Hartford *Courant*.

'71, FULLER.—Luther Fuller is principal of the Blooming Grove Academy, Blooming Grove, Orange Co., New York.

'71, MOULTON.—A. A. Moulton has decided upon a course in civil engineering, and is now studying in Michigan University, Ann Arbor, Michigan.

'71, PARSONS.—Frank Parsons is teaching school and studying law in Jacksonville, Ill. He is principal of the 3d Ward School.

'72, WHITNEY.—Mr. G. O. Whitney of the present Senior class in the Theological Seminary, has recently received a call to the pulpit of the Congregational Church at Tarrytown, N. Y., at a salary of $2,000 a year and parsonage. Mr. Whitney has accepted, and will be settled the third week in January.

'72, MARTIN.—Geo. D. Martin gave a public reading in Sachem Street Church, Norwich, Conn., on Wednesday evening, December 20.

STATISTICAL,

How Forests are Preserved in Europe.—It is estimated that there yet remain in France, 2,700,000 acres of State forest the revenue of which previous to the recent war, was $8,700,000. Bavaria has about 2,000,000 acres of forest; Prussia, as it existed before the war, had upwards of 5,000,000 acres. In each of these countries, schools of forestry, under State control, are supported, in which men are trained in the scientific and economical management of the State timber-lands.

Mount Cenis Tunnel.—The dimensions of the Mount Cenis Tunnel are as follows: Length, 40,145 feet, or 7.6 miles; width, 26 feet 8 inches; height, 20 feet. It cost thirten million dollars, and two thousand men were employed nine years in cutting through the mountain. The Hoosac Tunnel, when completed on March 15 1874, the date named in the contract, will have the following dimensions, Length, 26.061 feet, or 4.94 miles; width 24 feet, and heigt 21 feet. This tunnel has been seventeen years in course of construction, and when finished will have cost nine millions of dollars. About seven hundred men are at present employed in blasting through the Hoosac Mountain.

Old Coal Beds.—BituminousCoal, it is stated was mined near Richmond, Va., as early as the year 1700, and this fuel was extensively used in 1775 for the furnaces of an iron foundry in the vicinity, in casting shot and shell for the Revolutionary army. In 1789 bituminous coal was shipped from Richmond to eastern ports. Soft anthracite coal was first made use of for blacksmithing purposes in the Wyoming Valley, Pennsylvania. Hard anthracite was discovered by a hunter in the Lehigh region in 1791, and mines were opened during the succeeding year, but Lehigh coal was not shipped to Philadelphia until 1802. Schuylkill coal was first shipped to Philadelphia.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, JAN. 6, 1872.

WITH the New Year the COURANT begins a new volume, and inaugurates a few changes both typographical and editorial. The former, we hope, may prove acceptable to our readers, and in reference to the latter we may say that in assuming the managing control of this paper, it is with the determination to do all that time and patient labor can accomplish to make it worthy of patronage, and extend its sphere of usefulness. The name which stands in this column, as scientific editor, is a sufficient guarantee that that department will be standard in its character. It will be the aim in this department to give what is freshest and most reliable in Science, and which at the same time, is of general interest to our readers. With regard to the other departments, we may say that strenuous exertions will be made to thoroughly discuss all questions of interest relating to colleges, universities, and the higher education, both by way of original contributions, and in the editorial columns. The aid of those best calculated to elucidate the questions which may arise will be sought, and the widest latitude of discussions will be allowed. In literary criticism, an endeavor will be made to judge the work of an author justly, and so as to encourage honest effort, while, at the same time, treating with severity unworthy productions. In the matter of College news, we hope to present our readers each week with such an amount and variety as will keep them posted in regard to what the colleges of the country are doing. And finally, the fact that this paper has reached its tenth volume, not to mention the rise and growth of a publication of some kind, in almost every college in the land, plainly shows that such journals are needed, and have a sphere; and with a firm belief in this proposition, and a determination to make the COURANT worthy to occupy its sphere, we appeal to our readers for their kindly judgment.

THE claims of the Duc d' Aumale to a seat in the French Academy to which he has just been elected are not entirely insignificant. He received a public education at the College of Henry IV., distinguishing himself by his success in the university course and carrying off two prizes in rhetoric. Several articles on military affairs from his pen, have appeared in the *Revue deo Daux Mondes*, among which two were especially noticed one on the "Zouaves" and one on the "Chasseurs." Among his earlier works were "The Captivity of King Jong" and the "Siege of Alesia." But his great work and the one whose merits have doubtless aided in his elevation to his present position was the "History of the Princes of Conde."

WE have no hesitation in saying that the Course of Scientific Lectures inaugurated at Music Hall this (Friday) evening is as good, if not better, than any similar course which has been announced anywhere in the country this season. The names of the men who are to give them, coupled with the subjects which they are to treat are sufficient to warrant our assertion. Principal J. W. Dawson, of McGill College, Montreal, is to describe "The Primeval Flora;" President Henry Morton, of Stevens Institute of Technology, Hoboken, N. J., is to treat of "Light;" Prof. C. A. Young, of Dartmouth College, Hanover, N. J., is to give the present views of Science in regard to "The Sun;" Prof. C. F. Chandler, of the School of Mines, Columbia College, N. Y., is to expound the subject of "Gas Illumination," Prof. Asa Gray, of Harvard University, Cambridge, Mass., is to give an account of "The Fertilization of Flowers by Insects;" and Prof. A. M. Mayer, of Stevens Institute, of Technology, Hoboken, N. J., is to speak of "Magnetism." The lectures are to be accompanied by experiments, drawings, charts, etc. All who take any interest in scientific subjects, or have any desire to understand the phenomena of nature alone, or when she is assisted by art will be doing themselves an injustice by staying away from these lectures.

THE Rev. Robert J. Breckenridge who recently died at his home in Danville, Ky., was quite prominently connected with both the educational and philanthropic questions of his day. He was born at Cabell's Dale, Ky., March 8, 1800, and first entered Princeton College, where he remained two years and then spent one winter at Yale, and finally went to Union College, where he graduated in 1819. He studied law and practiced it for eight years, being for three years of that time a member of the Kentucky legislature. In 1829, he joined the Presbyterian church, and in 1832, was installed pastor of the first Presbyterian church in Baltimore. In 1845 he become president of Jefferson College, at Washington, Penn., but retained this position only two years. In 1853 he was elected by the Presbyterian General Assembly as Professor of Theology in Center College, at Danville, Ky., and he held this position until the school was suspended by the breaking out of the rebellion in 1861. Dr. Breckinridge enjoyed a high reputation all over the country for his eloquence and power as a speaker, and for his vast and varied information in all branches of learning, whether sacred or profane. He was a thorough patriot, being strongly opposed to Secession, a vigorous original thinker, and a prolific author. The last few years of his life were spent in retirement from public life.

THE recent information that two of the colleges of New England, Harvard and Williams, are retrogressing in the number of their students is calculated to excite attention in the minds, both of the friends of these institutions and of those interested in colleges generally. In the case of Williams the information is quite startling, the number of students being only about one half that of four or five years ago, and it behooves the friends of that college to give the matter a thorough investigation, and if possible devise a remedy. Whatever may be the cause of this falling off, we shall look with interest to the developments which may occur, in reference especially to their bearing on the question of whether there are too many colleges in the country, and endeavor to draw from them a lesson in regard to the advisability of any increase in the number of such institutions. In the case of Harvard the falling off is mostly in the Medical School, and may in a great measure be accounted for by the admirable reform which Harvard has lately inaugurated in her course of medical study. The medical students must now pass examinations, at the end of each year, of the course, which lasts three years, and theyare also required to attend lectures, class recitations, and clinics. Without doubt the falling off in students which this year makes evident, is due in a great measure to the thorough scholarship which, to her honor, Harvard now requires in this department. Whether, however, the decrease in other departments is merely the natural fluctuation from year to year, or not, remains to be seen.

THE CHINESE INDEMNITY FUND.

Those who read an article in this paper of December 23d., entitled, "The College of the Antipodes," are familiar with the origin of this fund, and the purpose to which it is proposed to apply it. We will not therefore, repeat anything there said except to reaffirm that vigorous measures are now being taken to bring the subject before Congress in such a manner as to secure the legislation necessary to permit the use of this fund for the purpose desired, viz., the establishment of an American College in China for the mutual benefit of Chinese and Americans. In furtherance of these measures a meeting was recently held in Cooper Institute, New York City, of a character similar to those previously held in other places. At this meeting a series of resolutions was passed, and a committee appointed to select from the names there nominated, a standing committee to execute the purpose of the resolutions. This committee have performed their work, and have announced the following as the Permanent Committee:—Peter Cooper, President Cooper Institute; the Hon. W. H. Aspinwall; S. I. Prime, D.D., President of the Academy for the Advancement of Science and Art: the Hon. Charles P. Daly, President of the American Geographical Society; James M. Brown, A. A. Low, the Hon. W. E. Dodge, Fletcher Harper, Prof. S. F. B. Morse, LL.D.; the Hon. E. C. Benedict, Vice-President N. Y. Historical Society; Nathaniel Brown, D. D., LL.D., President of the American Philological Society; the Hon. W. B. Ogden, President of the American Institute; Nathan Bishop, E. L. Fancher, James H. Taft, Fred. S. Winston, Francis Lieber, LL. D.; the Hon. H. C. Van Vorst, Henry E. Marquand, Wm. W. Parkin, Robert M. Olyphant. David B. Coe. D. D.; Wm. Adams, D. D.; W. P. Jones, Christopher R. Roberts; also ex-President T. D. Woolsey, D. D., LL. D., and the Presidents of Harvard, Yale, Brown, Princeton, Columbia, Bowdoin, Dartmouth, Williams, and Oberlin Colleges, Cornell University, Wesleyan University, and the Universities of New-York, Virginia, South Carolina, Vermont, Michigan, Pennsylvania. Iowa, Wisconsin, the North-Western University, and Notre Dame, Ind.

The Resolutions above referred to and under which the committee are to act, are as follows:—

Whereas, There is a sum of money now in custody of the Secretary of State for the United States known as the surplus of the Chinese Indemnity Fund, which Presidents Buchanan and Lincoln recommended Congress to appropriate to the establishment of an American College in China for the mutual benefit of Chinese and Americans: therefore,

Resolved, That this meeting appoint a standing committee of 25 members to confer with our representatives in Congress in relation to the disposition that ought to be made of this fund, and take such action from time to time as in their judgment may seem best to induce Congress to appropriate this money as justice and sound policy in our dealings with the Chinese may require.

Resolved, That it, after full investigation, the application of this fund to the establishment of the American school in China which was recommended by the late Minister Burlingame should be found consistent with the rights of Chinese and Americans, this meeting will be gatified to render any aid in its power to encourage Congress to make such an appropriation, believing as we do that an institution of this kind by providing suitable interpreters for our diplomatic, consular, and commercial offices in China, by educating Chinese interpreters for their custom service and other foreign connections, and by disfusing among educated Chinese a knowledge of American inventions and industrial processes, would operate powerfully to prevent misunderstandings, remove prejudices, and foster peace and commerce between the two countries.

Resolved, That such an institution, properly conducted, might contribute very important assistance to many departments of science in that thorough exploration of Asia now so loudly demanded by all scientific interests.

The recommendation of the late Minister Burlingame, referred to in the above resolutions was to the effect that the ultimate control of the fund should remain in the hands of the government while the management of the details of the project should be confided to trustees. These trustees should be selected with a view to give all Americans, interested in China, a fair representation, and should be men of national reputation for ability and integrity. The college should be entirely undenominational, and should have for its object the training of interpreters, the diffusion of a knowledge of American civillzation among the educated Chinese, and the spread of such information as would facilitate intercourse among the two nations. It was further recommended that the total present amount of the fund be

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preserved intact, the income only being used for the purposes desired, and that only $20,000 of the first year's income be devoted to the attainment of buildings, that amount being deemed sufficient.

The composition of the above committee is an encouraging sign that the matter is in hands which will not allow it to fail through any want of action on their part; and it is earnestly to be hoped that the project recommended by Presidents Buchanan and Lincoln, in several of their messages will not, as has heretofore been the case, be strangled in a Congressional committe.

THE WOMAN QUESTION.

The coëducation of the sexes is no *new* subject. It is but a return from the abnormal condition of society, which seems to have had its birth in that old worn out idea that woman was inferior to man in the higher studies. We say worn out idea and yet there are some who still contend for the truth of it, and among these may be classed the papers from which the above extracts have been taken. —[*The University Reporter.*

The papers here alluded to are *The Chronicle*, which is not in need of our vindication, and THE COLLEGE COURANT, which, so far as we know, has never offended in the particular mentioned. Our columns have always been open to the discussion of the question of coëducation. They have contained papers, and the best ever published on the subject in favor of the plan, which the *Reporter* calls the normal condition of society. They have also contained papers which advocated the opposite side of the controversy, and maintained the advantages resulting from separate schools of instruction. These papers have been inserted for what they were worth, and not as an indication of the views of the editor, and still less as an evidence of his yaccillation. Upon this subject as upon all others that come within our province to advocate or discuss, we have our views and opinions.

It is true that, on a few occasions, we have made articles written by the advocates of coëducation, the subject *of criticism*; not however, because we disapproved of all that was advanced, but because we thought the arguments defective. When any one sets himself up as an oracle, or advances himself as the advocate of any new doctrine or theory, he must expect to have his arguments scanned and criticised. This may be done by those who differ with him in opinion, and such are most likely to discover and expose the shortcomings of his argument. But even those who advocate the same views may take exception to what he has written or uttered, if it be open to logical objections from the opponents of the measure advocated. It does not follow because he exposes the defects of an argument, that he is opposed to the views presented. It may be that he is seeking to strengthen these views, by deprecating the weakness of an indifferent argument, which an enemy of the measure might subject to ridicule and contempt. We do not pretend that our criticisms were of this character, but as we have more than once stated, the champions of any measure ought to be its ablest advocates, and their arguments ought to be as far as possible beyond the reach of logical criticism.

It may be that our opinions are not as well settled upon this as upon some other subjects, for we regard the question of comparative benefits as still unsettled. The experiments are experiments still, and though they may afford arguments to the advocates of either side of the controversy, they furnish no such indisputable facts as will lead to a common conclusion. It does not follow because one who maintains that institutions for separate instruction of the sexes have some special advantages, that he must be opposed to joint-education under any circumstances. Nor does it follow that, because good has resulted from some institutions where both sexes are educated, either in the same or separate classes, that all colleges should be thrown open at once to the opposite sex. There are colleges which are not prepared, at present, for any such radical and fundamental change. If it be a sound argument that Yale should so change its system of government as to receive women, and Vassar so change its mode of instruction as to receive men, because Iowa State University has succeeded in the experiment of education, it does not follow that they should make the change before they are thoroughly prepared, and fully convinced that it would result in benefit to the institution and the community. Nor does it follow because we do not advocate a hasty change in these colleges, so as to make instruction in them possible to both sexes, that we are opposed to joint-education.

We have always thought it possible, and that experiment might yet establish the fact, that while the sexes may be educated together under some circumstances with profit, they might under other circumstances, be educated with greater profit, by receiving separate instruction: say at West Point and Anapolis, and schools for surveying and engineering, and for pursuits of this character, to which men are best adapted. It might not be difficult to mention vocations, especially suited to the physical nature of women, in which they might be similarly educated with increased advantage. After a careful consideration of the subject, we think there must be a more thorough test of time and trial, before either should be wholly preferred, or the other unconditionally condemned. Joint-education, whether an old or a new subject, or "a return from the abnormal condition of society," is new in the respect that it is of recent introduction in all the colleges where it exists in this country, perhaps with a single exception. In many of these institutions the change was made as an experiment, and in some of them it is still so regarded.

On the other hand, we know that the oldest and best institutions in the country, some of them for a full century, have educated the best men of the nation, and in the best manner practiced on this side of the great water, without the presence of women to mould their morals or stimulate their ambition. Where colleges have done so well, and for so very long a period, they may not be hastily censured for not adopting an innovation that is still, with all that has been said and done, an experiment of disputed utility. Nor is it to be logically inferred because such an institution does not adopt the new system, that it is opposed to its introduction into other colleges, or that it will not some day, should the new sysem prove an entire success, and afford undisputed evidence of superiority, incorporate it upon its own system of government and instruction.

But until the superiority of joint-education shall be settled by a longer period of time or a greater array of facts, we shall hold the subject to be one open to controversy, and proper for discussion in our columns, which are always open for such communications as are properly prepared. Such contributions we shall feel at liberty to publish without endorsing the sentiments therein contained, whatever may be the views advocated. If we see fit to criticise the arguments offered on either side, because of their defective character, we insist that that fact is not to be construed into a condemnation of the system which we find so improperly supported. And least of all do we admit the justice of the charge, because of any such criticism, that we contend for the truth of the old worn out idea, to use the language of the *Reporter*, that woman is inferior to man in the higher studies.

LITERARY.

With its third volume, the Technologist comes to us in an entirely new dress, with the title of *The Industrial Monthly*. It is well gotten up and is worthy of success.

Dr. S. W. Butler sends us *The Physician's Annual* for 1872, which besides being something new, contains the calendars and a large number of statistics of great value to the medical profession.

We have seen the advance sheets of a Yale Almanac which is to be published some time within a few weeks. The elements of humor and caricature are prominent in its pages and it will doubtless meet with general favor.

The American Journal of Science and Arts, the standard periodical of American science, seems to have received a new lease of life with the commencement of its third series, when it became a monthly. With the January number it began the third volume of this series.

There are few finer specimens of the printing art than are found in the pages of *The Typographic*, and when we say this we have *The Aldine* in mind, and make the affirmation notwithstanding. The *Typographic* has now reached its fifth number, and commences a new volume with the next issue.

The American Chemist, under the able editorship of the brothers Chandler, is rapidly becoming first class. The proportion of original articles is increasing and it now altogether surpasses the *Chemical News*, its original prototype. It is a valuable journal to the practical chemist, the druggist and the physician.

The American Naturalist, the "excellent American Journal" as Mr. Darwin calls it, enters upon its sixth volume with the January number. We are glad to see that the proprietors have decided to create a department of microscopy for it and to place this department in charge of Dr. R. H. Ward of Troy, an accomplished microscopist. They have thus added to the value of what was before an invaluable periodical. We would urge the teachers and students in our colleges and academies, to send at least for a specimen number that they may see how good it is and so subscribe.

The New York Observer Year Book has made its appearance and proves to be a most handy and useful publication. It is a volume of information invaluable in the editorial room, and almost so to every one. We are disappointed however to see that the list of Collegiate Institutions is arranged in the alphabetical order of the states in which they are located; so that in order to find a college, it is necessary to know the state in which it is, or to look through the whole list, a dificulty which might have been easily avoided. Most frequently in our experience, the location of a college is what is sought for in a reference book, and this, in the list before us, is in part at least, presupposed.

The new year sees some changes in the journals of the period. *Every Saturday* abandons its pictorial illustrations and its larger size, and becomes a thirty-two page "Journal of Choice Reading." The first number of the new series is made up almost entirely of selections from leading English periodicals, and of a character which warrant the adjective in the paper's title. It is certainly superior in style and typographical excellence to "Littel," which it follows in its leading idea, and will doubtless have many readers. That young and vigorous New York daily, which is fast becoming one of the leading papers of the Metropolis, the New York *Evening Mail* celebrates the Holidays by issuing a weekly edition. The success of the *Mail* is somewhat remarkable and what is more it is worthy of its good fortune. We rejoice in this new evidence of its prosperity.

The usual abstract of the semi-yearly meeting of the American Oriental Society held in New Haven last October has appeared. It is a pamphlet of sixteen pages, and embraces synopses of thirteen communications from Ex-President Woolsey, Professors Hadley and Whitney, Messrs. Wm. H. Ward, Van Name, and others. Mr. Ezra Abbott's paper is a critticism on Archbishop French's distinction between *αἰτέω* and *ἐρωτάω* in his synonyms of the New Testament, and reaches the conclusion that the former is used to ask for something which one wishes to *receive*, and rarely for something which one wishes to be done; while the latter is to request or beseech one to *do* something, and rarely to give something. When the former is used the *object sought* is in mind; when the latter is used, the *person* of whom the favor is sought is most prominent in the thought.

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This view is sustained by a reference to the construction which follows the verb in question, ἐρωτάω being almost universally followed by an infinitive or a subjunctive or imperative clause; and αἰτέω, as generally by an accusative of the thing asked for. Rev. Wm. Hayes Ward of New York communicated a very interesting paper on the Ninevitic Cuneiform Inscriptions in this country. The slabs containing these inscriptions are quite rare, there being not more than a score or two in the country. Of these Yale has four in her library, and there are others at Amherst, Williams, Dartmouth, and Union Colleges, and in the rooms of the Historical Society of New York. According to Mr. Ward these inscriptions are mural slabs taken from a single palace of Assurnazirbal, found at Nimroud. Assurnazirbal, according to the French Asyriologists, ascended the Asyrian throne July 2, 930 B. C., and reigned twenty-five years. He was contemporary with the Biblical kings Ahab and Jehoshaphat. The palace from which these slabs were taken was 360 feet long by 300 wide, built on a raised platform overlooking the Tigris. It contained a long central hall surrounded by ceiled chambers, whose sides and floors were covered with these slabs. The paper as presented to the society was accompanied with a copy of the inscription of a slab at Amherst College an interlinear translation of each character in English letters, and a translation of each word under it. Of this translation we give the sixth and part of the seventh line as they appear on the slab: "According to the will (?) of El, of Ninib, of Yav, the gods whom I serve, I violently (?) attacked (?) the armies of the land of Nairi, of Gilhi of Jubarie, and of the neighboring region. I am the king who reduced under his feet the territory from the ford of the Tigris unto the land of Lebanon and the Great Sea," etc. Rev. J. H. Shedd, missionary at Orûmiah, sent a Journal of a tour from Orûmiah to Hamadan, etc. In an appendix he discusses the question of the relation between the Jews of Persia and the lost tribes of Israel, and reaches the conclusion that some, at least, of the Jewish communities on the ground are lineal descendants of the ten tribes." The next meeting of the society is to be held in Boston on the 22d of May, 1872.

Fragments of Science for Unscientific People.* Professor Tyndall is as happy in his popular expositions of Science as he is profound in his original investigations in it. His admirable books on "Heat" and "Sound" have given him well-nigh as great a reputation among the masses, as his classic researches on Diamagnetism and Radiation have won for him among the learned. Wise was he therefore, to heed the "impulse" from the United States, and to gather together his fugitive papers into a volume dedicated to his American friends. This volume, which he entitles "Fragments," contains some of his very best literary work; the tenth chapter being altogether the most fascinating, in our opinion, of anything he has written. It is a lecture delivered at the Royal Institution, Jan. 15th, 1869, on "Chemical Rays and the Structure and Light of the Sky," in which is demonstrated: "1st, that sky-blue may be produced by exceedingly minute particles of any kind of matter; 2d., that polarization identical with that of the sky is produced by such particles; and 3d., that matter in this fine state of division, where its particles are small in comparison with the height and span of a wave of light, releases itself completely from the law of Brewster, the direction of maximum polarization being absolutely independent of the polarizing angle as hitherto defined." We should mention also, as worthy of note, the "Rede" lecture on "Radiation," delivered before the University of Cambridge, May, 16, 1865; the discourse on "Dust and Disease," given at the Royal Institution, Jan. 21, 1870; and the address on "The Scientific use of the Imagination," delivered before the British Association at Liverpool, Sept. 16, 1870.

* *Fragments of Science for Unscientific People. A Series of detached Essays, Lectures, and Reviews.* By John Tyndall, LL.D., F.R.S., Author of "Heat as a Mode of Motion," "Lectures on Sound," etc., etc. 8vo., pp., 422. New York, 1871. D. Appleon & Co.

Moreover, Professor Tyndall has given us some "Fragments" which are not exclusively scientific and in which he appears more in the light of a controversialist. Such are his "Thoughts on Prayer and Natural Law," in which he says that science asserts that "without a disturbance of natural law quite as serious as the stoppage of an eclipse, or the rolling of the St. Lawrence,† up the falls of Niagara, no act of humiliation, individual or national, could call one shower from heaven or deflect towards us a single beam of the sun;" his review of Mozley's Bampton Lectures, entitled, "Miracles and Special Providences," with its appendix, where he calculates that the stoppage of the earth's rotation in the miracle of Joshua, required an energy "equal to that of six trillions of horses, working for the whole of the time employed by Joshua in the destruction of his foes. The amount of power thus expended would be sufficient to supply every individual of an army a thousand times the strength of that of Joshua, with a thousand times the fighting-power of each of Joshua's soldiers, not for the few hours necessary to the extinction of a handful of Amorites, but for millions of years. All this wonder is silently passed over by the sacred historian, confessedly because he knew nothing about it. Whether therefore we consider the miracle as purely evidential, or as a practical means of vengeance, the same lavish squandering of energy stares the scientific man in the face, If evidential, the energy was wasted, because the Israelites know nothing of its amount; if simply destructive, then the ratio of the quantity lost to that employed may be inferred from the foregoing figures"; and his short but pithy article on "Science and Spirits." Here too, should be mentioned his address on the "Scope and Limit of Scientific Materialism," in which he protests against a too exclusive application of scientific laws, asserting that "the passage from the physics of the brain to the corresponding facts of consciousness is unthinkable.

The book is printed and bound with the care and elegance characteristic of the Messrs. Appleton.

† A curious geographical blunder.

Taine's English Literature*—The second volume of this very instructive and entertaining work opens with Dryden, "the greatest poet of the classical age." In his characteristic method, the author first studies the history of the times and the personal character and habits of the poet. The genius that awoke with the Renaissance had died out; its extravagances and crudities remained. Dryden had received an excellent training, and with exemption from care and an ample fortune, he gave himself to a literary life. His mornings he spent in his study; his afternoons in Will's coffee house, reigning at that famous literary rendezvous "the monarch of taste and the umpire of letters." He lives among great men and courtiers in a society of artificial manners and measured language. His first productions are his dramas, twenty-seven in number. His ideal of tragedy is far from that of Shakespeare, but farther still from that of the French tragedians. The new drama is no longer romantic but classical. *All for Love* is singled out for extended criticism as the best of Dryden's compositions. A new style, properly classical, is introduced. It is no longer imaginative but explanatory and argumentative. It is clear, exact, simple. Dryden is judged to be not a great creative genius, but after all "a genuine poet."

The revolution brings a change into English literature; a serious, reflective, moral spirit comes to rule. Pulpit discourse is prominent. Whitfield and Wesley kindle a fire throughout the country. Tillotson he ranks first among the great preachers of the age, "the most authoritative of all, a kind of father of the church." His style is pronounced to be "nothing life-like;" "a skeleton with all its joints coarsely displayed—all the ideas ticketed and numbered;" "his sermons efficacious not rhetorical—they do not please, they lead to action." In like manner, there is noticed in Barrow "absence of rhetoric;" "zealous energy and lack of taste." The conclusion is: "if Barrow is redundant, Tillotson heavy, South vulgar, the rest unreadable, they are all convincing; their sermons are not models of elegance, but instruments of edification." The age is characterized by controversial prose in theology or metaphysics; "apologies, repetitions, expositions, discussions multiply and make us yawn; they reason well and that is all." While in France, "theology is lofty" and "grows the finest flowers of mind and genius over the briars of scholastics," "in England, all is dull, dry, and gloomy." The free spirit, however, which has awakened in England, breathes out in great freshness and power in political life; and the manly eloquence of Junius, Chatham, Fox, Pitt, Burke, and Sheridan is sharply contrasted with the drawing-room talks of French literati.

M. Taine devotes an entire chapter of eight pages to Addison and another of thirty-six pages to Swift, "the two most accomplished writers yet seen in England." The characteristics of this classical age among the English as compared with the French are "a narrower and more practical argument, a more poetical and less eloquent urbanity, a structure of mind more inventive and more rich, less sociable and less refined." Swift is "a great and unhappy genius, the greatest of the classical age, the most unhappy in history, English throughout, whom the excess of his English qualities inspired and consumed."

The novelists, De Foe, Richardson, Fielding, Smollett, Sterne, Goldsmith, Samuel Johnson occupy the next chapter of forty-two pages; and the Poets the concluding thirty pages of the third book. In Pope, whose several works are enumerated and criticized, Mr. Taine finds "classified art to centre. His is the best versified prose in the world; "that of Boilean does not approach it." Pope, however, is to be read by fragments.

Book Fourth opens with a chapter on the new ideas coming to rule in England in the nineteenth century. Great changes take place in society; the democratic element rises; French democratic agitations and German metaphysical speculations penetrate into England; a new spirit predominates. Robert Burns, whose life and works are reviewed at length, is the first fruit of the new life. Form, which has so long ruled in England, now fades away and disappears. This, disregard of form, "is the great fashion of modern poetry; Burns has reached it seven or eight times." In Cowper, "poor, charming soul, perishing like a frail flower transplanted from a warm land to the snow," poetry again becomes life-like; "we no longer listen to words, but we feel emotions; it is no longer an author, but a man who speaks." Then follows the Romantic School — Southey, Coleridge, Wordsworth—"a sect of dissenters in poetry." Their characteristics, their faults, and their excellences are reviewed at considerable length. Moore and Scott "the Homer of modern civilized life," belong to the historical school of English poets. Scott is followed by the "novel of manners." Miss Austin, Miss Brontè, Mistress Gaskell, George Eliot, Bulwer, Thackeray, Dickens, and many others paint contemporary life. "Realistic and moral," these are its two features. Another school, the philosophical, a result of German speculation, appears side by side with this development, in Wordsworth, Byron, and Shelley. "Wordsworth was a wise and happy man, a thinker and a dreamer, who read and walked." His theory of art was altogether spiritualistic; poetry must profit the soul, the rest is indifferent; discard conventional language and poetic diction, neglect noble words. scholastic and courtly ephithets; leave show and seek effect; speak in a base style, as like as possible to prose, to ordinary conversation, even to rustic conversation. A long chapter of forty-two pages follows, wholly devoted to Byron—the life and character and poems of "the last, the greatest, and most English of these artists."

History of English Literature. By H. A. Taine. translated by H. Van Laun one of the masters of the Eninburgh Academy. Vol. II. New York: Holt & Williams. 1871. Pp. 510.

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The fourth book is closed by a chapter entitled "the Past and the Present." The progress of English civilization is traced in it from the Saxon invasion, establishing the race; down through the Conquest, warping the character and establishing the Constitution; the Renaissance, evoking the national spirit; the Reformation, fixing the ideal, the Restoration imparting classical culture; to the Modern Age in which European ideas are widening the national mould. The present age is admirably sketched in all the leading forces working on civilization and on the character they are fixing. "The Englishman has henceforth his priest, his gentleman, his manufacturer, his comfort, and his novel."

Book fifth is the sequel to the English Literature and is written on another plan. In the course of over two hundred pages, M. Taine sketches the works of Dickens, Thackeray, Macaulay, Carlyle, Stuart Mill, and Tennyson.

BOOKS RECEIVED.

Woman's Worth and Worthlessness. By Gail Hamilton. Harper & Brothers. $1.50.

Fireside Science. By James R. Nichols. Hurd & Houghton. $1.50

German Conversation. By Prof. G. F. Comfort. Harper & Brothers.

History of Christianity. By Henry H. Millman, Vol. 1. Widdleton.

The Hoosier Schoolmaster. By Edward Eggleston. Orange Judd & Co.

Greek Reader. By William W. Goodwin, and Joseph A. Allen. Ginn Brothers.

The Home Theater. By Mary Healy. Robert Brothers.

Word Analysis. By William Swinton. Ivison, Blakeman, Taylor & Co.

Youth's Speaker. By Geo. R. Cathcart. Ivison, Blakeman, Taylor. & Co.

The Annual Illustrated Catalogue and Oarsman's Manual for 1871. Waters, Balch & Co.

PAMPHLETS RECEIVED.

Catalogues of University of Rochester, 1871-72; of Harvard University 1871-72; of Albany Law School 1871-72; of Episcopal Academy 1871-72.

New York Observer Year Book 1872. Sidney E. Morse, Jr. & Co.

The National Encyclopedia. No. 2. By L. Colange. Francis B. Felt & Co. 40 cts.

ALUMNI REUNIONS.

YALE ALUMNI IN CHICAGO.

In December, 1870, the Chicago Yale Association held their Fourth Annual Re-Union at the Sherman House. Only a heap of blackened brick and stone marks the place where they spent a night of jollity then, but in a new hotel in the new business centre, a mile south of the old one, the Fifth Annual Re-Union took place on Friday evening, Dec. 22. Thirty-four sons of Yale met together:—W. P. Lynde, '38, G. A. Meech, '43, C. H. Harrison, '45, H. T. Steele, '46, J. Rockwell, '49, F. Gaylord, '51, A. T. Galt, '57, Rev. E. C. Porter, 58, J. H. Andrews, '59, Rev. F. L. Chapell, E. G. Mason, '60, E. Andrews, H. S. Brown, '61; S. G. Eaton, '62, S. Appleton, '63, J. S. Norton, '65, G. W. Young, J. C. Patterson, L. Lewis' H. T. Rogers, L. L. Abbott, '66; L. L. Palmer, '67, S. H. Wheeler, L. B. Colt, '68, A. Bartow J. C. Grant, H. C. Bannard, '69; J. Perry. G. W. Hesing H. B. Mason, '70; A. Ryerson, O. J. Bliss, A. B. Mason, '71; and F. W. Grover, '74. Hon. W. P. Lynde, '38 presided at the well-filled tables, and when flesh, fish and fowl yielded to wine and cigars called for the regular toasts and songs. The order of exercises was as follows:—

Song, "Alma Mater,"
Toast, "Alma Mater;" responded to by Hon. C. H. Harrison, '45.
Song, "Lauriger."
Toast, "New Yale;" responded to by Rev. E. C. Porter, '58.
Song, "Smoking Song."
Toast, "The Phœnix;" responded to by J. S. Morton, '65.
Song, "Litoria."
Toast, "Last News from Yale;" responded to by A. B. Mason. '71.
Song, "Alumni Song."

The regular programme was followed by impromptu toasts and speeches, while the fun waxed fast and furious, until the meeting was once more called to order for business. On motion of Major S. B. Eaton, '62, it was unanimously

Resolved: "That the Chicago Yale Association returns its hearty thanks to the officers and students of Yale College for their generous contribution of the sum of $800 for the relief of such Yale men as have suffered by the recent fire and are in need of assistance."

With similar gratifying unanimity, the Association, on motion of Mr. E. G. Mason, '60.

"*Resolved:* That the members of the Chicago Yale Association have heard with the utmost pleasure of the recent change in the corporation of Yale College, by which its Alnmni have been admitted to a share in its government, and that their interest in and attachment to the institution have been greatly increased and strengthen thereby."

The Association voted as one man for the following officers for the ensuing year:—President, Rev. C. D. Helmer, '52; Vice-Presidents, Prof. J. W. Hyde, '47 and S. B. Eaton, '62; Secretary and Treasurer, A. Bartow, '69; Executive Committee, F. MacVeagh, '62, *Chairman*, L. L. Abbott, '66, L. L. Palmer, '67, S. H. Wheeler, '68, L. B. Colt, '68 and H. B. Mason, '70.

At a late hour the meeting broke up. It was a perfect success from beginning to end, and showed how strong a hold, even in calamity and distress, Yale has upon her western Alumni.

WESLEYAN ALUMNI IN BOSTON.

The fifth annual supper and reunion of the Alumni of Wesleyan, resident in Boston and vicinity, was held in the Revere house, Wednesday evening, December 27. About eighty persons were present among whom were the Rev. Drs. Warren and Patten of the Boston Theological seminary, Dr. Eben Tourjee of the New England conservatory of music, Judge Pitman, the Hon. Jacob Sleeper, and other prominent alumni. The university was represented by President Cummings, Professors Johnston, Prentice and Rice, and C. T. Winchester librarian. A number of ladies were also present for the first time since the association was organized. The company assembled about 5 o'clock, and after spending an hour and a half in social intercourse, repaired to the dining room where ample justice was done to an excellent supper.

After supper and a song Hon. F. M. Stone, president of the Association, opened the remaining exercises in a brief speech, and then called upon President Cummings with the sentiment: "The continued success and increased prosperity of the Wesleyan University." President Cummings, in reply, gave a brief sketch of the present condition of the university. The present valuation of its property he estimated to be $850,000. He alluded to the recent opening of the college doors to women, and stated that it was confidently expected that several would avail themselves of the privilege the coming year. He further stated that arrangements had been made for a course of lectures on law (to be delivered probably by Judge Shipman), and that the establishment of courses of post-graduate study was under consideration. The president closed his remarks with some pointed criticism upon the poor policy of the Methodist church in founding many and small literary institutions instead of concentrating means and interest upon her older and stronger ones. Mr. Lewis H. Osgood then took charge of the exercises as toast-master. "Lauriger" was sung and F. H. Newhall, D.D., late a professor in the institution responded to the toast "Our College Days." The next toast, to the "Ladies" was responded to by Judge Pitman who disapproved of the admission of ladies to the college. In response to the toast of "Old and New," Professor Rice, the youngest of the board of instruction, presented one of Rogers' groups to Professor Johnston, the oldest of the faculty. Another song followed and then Rev. W. F. Crafts read a poem entitled "College Life." After this, there were brief and spicy two minute speeches from the Rev. Gilbert Haven, D.D., of *Zion's Herald*, the Rev. Mark Trafton, D. L. Harris, J. E. Chase, M.D., and others. A sentiment in honor of the late Bishop Baker, was adopted by a silent vote. The meeting broke up about 11 o'clock.

The following board of officers was elected for the ensuing year:—President, the Rev. William F. Warren, D.D.; vice-presidents, the Rev. L. D. Davis, the Rev. F. H. Newhall, D.D., the Rev. C. M. Dinsmore, the Hon. R. C. Pitman, R. S. Douglass, the Hon. F. M. Stone; secretary, John C. Rand; treasurer, Charles F. Gerry; committee of arrangements, the Rev. Gilbert Haven, D.D., the Hon. R. C. Pitman, George Roberts, Esq., and the Rev. S. F. Upham.

WILLIAMS ALUMNI IN NEW YORK.

The Alumni of Williams College held their annual reunion and dinner at Delmonico's, in New York city on Thursday evening Dec. 28th. The reunion was well attended, the following among others being present: Hon. Erastus C. Benedict, Rev. Dr. Adams, Wm. C. Bryant, D. D. Field, Rev. Dr. Durfee, H. M. Field, J. Buel, Dr. Ely, Dr. West, Gov. Washburne, Gen. Garfield, Prof. J. Bascom, Dr. Hallock, R. R. Booth, Rev. S. J. Tyng, Jr., and Judge Colt. Previous to the dinner Hon. Erastus Benedict was elected president of the Association, Hon. Wm. E. Dodge, Esq. Vice-president, and Chas. A. Stoddard Secretary, for the ensuing year. A number of lady relatives and friends of the Alumni were also present and occupied seats at a table especially prepared for them.

After the dinner had been satisfactorily disposed of, the president of the Association spoke in glowing terms of the record made by Williams college, and of the many prominent men in all the walks of life who claimed her as their Alma Mater. Rev. William Adams spoke in eulogy of President Hopkins and of the college and its location. He referred to the noteworthy fact that most of the colleges in this country are in the hands of clergymen, and that while on the Continent of Europe there is an unhappy antagonism between the men of science and progress and the men who represent the Church; in America the clergy have come to be recognized as the patrons and alies of science and true progress. Prof. Bascom of Williams made in some respects the most remarkable speech of the evening. He said that during the past year the students of the college had been especially patient and attentive to their work; but notwithstanding the institution is in some respects, in a critical condition. We cannot look upon its decrease of numbers as simply due to accidental forces. We have now but about 100 students, less than half the number we had five or six years ago. As among the causes of this state of things I would mention a partial want of executive enterprise in the administration of our college affairs. We have not had the eagle eye which forsees the difficulty in the distance. He thought that the college needed to be "modernized" to prevent its decay. Prof. Bascom's remarks created quite a sensation. Gov. Washburn did not believe that the accusation made against Williams that she was identified with the ideas of a passed generation and was not up to the requirments of the age, was true. He spoke combatting this accusation. William Cullen Bryant, after giving a most humorous epitome of the Darwinian theory and stating. his disbelief in it, said that there was just as much reason to believe that man was retrogressing monkeyward as there was to believe that the monkey was progressing toward humanity. If this last proposition was true, it was incumbent upon all to encourage development and progress in order to avoid degenerating into animals. And to avoid this calamity, he advised all to do all in their power to promote educational interests, and spoke particularly in favor of aiding the projected scheme of founding an institution in connection with Williams College, to provide cheap board for indigent young men who desired to become students.

Speeches were also made by S. H. Tyng, Jr., Gen. Garfield, D. D. Field and others, and letters of regret at inability to attend the dinner were read from President Hopkins, Judge Stephen J. Field of the Supreme Court-Prof. Howard Crosby, Assistant United States Attorney

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General Clement U. Hill, Hon. Martin I. Townsend of Troy, Hon. David A. Wells and Prof. Perry.

The company did not separate until a late hour.

BOWDOIN ALUMNI IN BOSTON.

The annual dinner of the Alumni of Bowdoin college took place at the Parker House, Boston, Thursday evening December 28th. About the usual number were present and the occasion was much enjoyed. Previous to the dinner the old board of officers was reelected as follows: Hon. John C. Dodge '34 President; Charles M. Cumston, '34 Vice-President; and Daniel C. Linscott Esq., Secretary. A letter was also read from the New York Association requesting the Boston Association to send one or more delagates to the annual meeting and dinner to be held at Delmonico's in January, and Prof. John Johnson '32 was selected as the delegate. The party then adjourned to the dinning hall and disposed of the viands which had been provided.

After the cloth was removed, the usual commencement hymn was sung, and the president spoke briefly, expressing his pleasure at seeing so many alumni gathered, and urging the sons of Bowdoin to be more active in pressing the claims of the college. He spoke of the supposed tendency of educational institutions to conservatism which however true of European universities, was not true of American colleges; in proof of which he instanced the progress now making in educational methods, especially in the New England colleges, and not least at Bowdoin. In conclusion, he referred in a happy manner to the presence of the Rev. Professor Packard, the oldest member of the faculty, who had taught every graduate present with one exception, and called upon him with an appropriate sentiment. Dr. Packard said that although he had grown old in the college having been connected with it more or less for nearly sixty years yet the college had no gray hairs. It was younger, fresher, and fairer to-day than when he first knew it. We are adding to our courses, and they are much higher courses than formerly. When he entered college the candidates were examined in four rules of Arithmetic, in some of the first elements of Latin and the Greek Testament. Much is said of the "new departure." Bowdoin has not departed from the old ruts," but has added to her courses, and the system now adopted has been earnestly and persistently urged in the faculty for the last half-dozen years. But Bowdoin needs aliment,—money,—and she can never take the position to which she is entittled until she gets it.

The next speaker was Dr. Cyrus Hamlin, president of Robert College, Constantinople, which he said was but a copy of Bowdoin on the Banks of the Bosphorus. He had come home, he said, to raise a fund of $300,000 for that institution, and he gave a most interesting description of the college and its mode of working.

Speeches were also made by Benjamin A. G. Fuller, '39, Samuel E. Floyd, '56, C. C. Nutter, '38, who said a few words in memory of Gov. Andrews, John Johnson, '32, W. W. Rice, '46 and William Northend, '43, the latter two urged the raising of money for the benefit of the college.

The speaking was continued until a late hour, the remaining speakers being Dr. David Humphreys Storer, '22, the Rev. John P. Cleaveland, '21, Mr. Lory Odell, '23, Professor Egbert C. Smyth, '48, J. W. Perry, '46, Professor J. B. Sewall, '48, the Rev. George Gannett, '42, N. G. White, '45, and D. C. Linscott, Esq. '45.

COLLEGE RECORD.

Massachusetts Agricultural College, (Amherst, Mass.)—The Historical Address delivered at this institution last July on the occasion of graduating the first class has just been printed. It was given by Hon. Marshall P. Wilder, and is a valuable contribution to the history of the movements in Massachusetts to promote Agricultural Education.

Cumberland University (Lebanon, Tenn.)—This institution lost nearly every thing in the war. Its buildings were burned, and its endowment all lost except some Chicago property which is now burned. Since the war however it has secured funds and endowments as follows: The relinquishment of old scholarships to the amount $50,000; cash, (Finley bequest), $27,000; Murdock and other libraries, $20,000; Building subscription, $36,000; "Ball Endowment," $100,000; "Camp Blake" property, $7,000; sundry small cash donations, $20,000; making a total of $260,000. Besides this amount it has mining lots and southern lands of unknown value; perhaps $150,000, but not available at present. The institution has besides its ordinary fitting school, at Lebanon, seven detached preparatory schools averaging forty pupils apiece, and the medical college at Memphis is under its jurisdiction. All the theological students are taught and boarded gratuitiously; whether they are mere aspirants to the ministry still in the college of Arts, or have commenced their theological studies. The church has furnished, from year to year, plenty of money and provisions for this gratuitious work. Generally there are yearly at least sixty candidates for the ministry in the university.

Iowa College, (Grinnell, Iowa.)—On the night of Dec. 23, one of the college buildings was destroyed by fire. When Sabbath morning dawned smouldering ruins, and four rough columns of brick at the corners were all that remained. It was the oldest of the two edifices on the college campus, and the poorer, called East College, and was three stories high, containing the Museum, Academy Hall, Armory, and four recitation rooms, with lodging rooms for students in the third story and chemical lecture room, and a partly finished working laboratory for students in the basement. The insurance was $10,000 (in the Underwriters Agency), about half the cost. The principal loss in contents was on the Museum of Natural History, the choicest and most valuable one west of Ann Arbor, chiefly the work of Prof. H. W. Parker now of Mass., Agricultural College. This was insured for $1500, a small part of its value. It is about half ruined, the finest preparations being very much broken while tearing them from the cases in the dense smoke and darkness. All the guns, equipments, and cartridges in the Armory were lost, but are to be immediately made good by the State, through Adj. Gen. Baker. Contributions to restore the Museum are also offered, and preparations from the East will be very welcome. About $20,000 besides the insurance will be needed to replace the building, which was in daily use. For temporary purposes the college chapel in West College will be divided into four recitation rooms, the library also and larger recitation room subdivided, and the department of Chemistry and Natural Science, occupy a small dwelling house near by. Very fortunately the new apparatus made for Prof. Carmichael, in Germany, which he had just brought home, was at the R. R. depot, and consequently was saved.

The catalogue forthcoming gives three hundred and forty-six students, and fourteen instructors for the past calendar year. All the classes will go on notwithstanding a touch of Chicago experiences. A number of students lost all, and one had his feet badly frozen. The college needed to build other buildings and is severely cramped by this loss, to replace which it will need generous benefactions. Public journals speak of it as an institution of which the State has reason to be proud, and one which will not be allowed permanently to suffer from its "trial by fire."

Bowdoin College, (Brunswick, Me.)—The new catalogue exhibits in full the improvements inaugurated last commencement. The old curriculum, now called the Classical, remains unchanged, except some small provisions in the way of increased efficiency and advancement; the design being, now that another department is established, to make the classical more pronounced and as advanced as possible. The principal thing done, however, hasbeen the separation of Elocution and Oratory from Rhetoric and English Literature, and the appointment to the new chair of a provisional professor.

The new department, called the Scientific, is designed as a parallel course to the Classical. The students in the two departments are distinguished only so far as their studies are different. They are numbered together as members of the same class, sit together as such in chapel, and recite together so far as studies coincide. Greek is not a study in the new department. Latin is continued one year, and is taught in a manner combining more oral exercise and writing, like a living language, than in the common method. Latin and English are the two languages of the first year. Mathematics, Physical Geography &c., Ancient History, Elements of Drawing, Elocution and English Composition are the other studies. In the second year, French and English are the two languages, with Mathematics, Surveying, Navigation, Field Work, Analytical Geometry, and Calculus; Chemistry, with laboratory work; Rhetoric, Botany, and Mediæval History. The studies of the whole course are provided for, but the details of the third and fourth years are not yet arranged. The additional officers appointed are: Walter Wells, A.M. class of '52, superintendent of Hydrographic Survey of Maine, and author of "Water Power of Maine," Lecturer on Physical Geography and Meteorology; A. S. Packard, Jr., M.D. '61, editor of "The American Naturalist," Lecturer on Entomology; William W. Thomas, A.M. '60, Commissioner of Maine, for Swedish Immigration, Lecturer on Scandinavian Languages and Literature and Instructor in Swedish; Edward S. Morse, Ph. D. Professor of Comparative Anatomy, and Zoölogy; Henry L. Chapman, A.M. '66, Assistant Professor of Latin; John N. McClintock, A.M. '67, of the U. S. Coast Survey, Instructor in Topographical Engineering and U. S. Coast Survey Methods; James B. Taylor, A.M. Harvard '68, Andover '71, Provisional Professor of Elocution and Oratory; and Charles H. Moore, A.B. '70, Tutor in Latin and Mathematics. Provision has also been made for a post graduate course of two years the studies embracing language, philology, science and philosophy. At the conclusion of this course the degree of Ph. D. will be conferred. The degree of Bachelor of Science, S.B., is conferred upon graduates of the Scientific department, or if engineering shall have been made a specialty, the degree of Civil Engineer, C.E., The Catalogue gives the following summary of students:

Medical School,		67
Senior Class,	25	
Junior "	37	
Sophomore "	37	
Freshman "	59	158
Total,		225

Harvard College, (Cambridge, Mass.)—An examination of the catalogue just issued by the faculty of Harvard, shows that within the last year there have been no very great changes. In the board of overseers the term of Messrs. George Merrick Brooks, John William Bacon and Thomas Baldwin Thayer, has expired and they have been succeeded by Messrs. Stephen Salisbury, George S. Hillard and Thomas Hill. Messrs. Richard H. Dana and James Lawrence, whose term expired this year, were reëlected, and Mr. Francis Parkman, having become an officer in the Bussey Institution, has been succeeded by George O. Shattuck, esq. In the officers of instruction and government there is but little change, but there have been several additions. Among the names which do not appear this year are those of the Rev. James Freeman Clarke, professor of natural religion and Christian doctrine; Elbridge J. Cutler (deceased), professor of modern languages; Thomas Messenger Drown, instructor in metallurgy; Stephen Paschal Sharples, assistant in chemistry; Edward Payson Austin and Henry Gannett, assistants in the observatory, and William Cowper Simmons, Robert Alder McLeod, Francis Rawle, William Gardner Hale, proctors. The number, however, has been largely increased, especially in the lower offices. The new names are as follows: Dr. George Derby, professor of hygiene; Dr. John E. Taylor, professor of mental diseases; Dr.

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Francis Minot, assistant professor of the theory and practice of medicine and clinical lecturer on the diseases of women and children; Dr. Daniel D. Slade, professor of applied zoölogy; Francis Parkman, professor of horticulture; Dr. John P. Reynolds, instructor in obstetrics; Dr. Henry W. Williams, professor of opthalmology; Charles F. Dunbar, professor of political economy; Dr. John N. Borland, instructor in clinical medicine; Ferdinand Bôcher, professor of modern languages; Dr. Edward B. Dalton, instructor in the theory and practice of medicine; Charles F. Hoffman, professor of topographical engineering; Francis G. Sanborn, instructor in entomology; Dr. Henry P. Bowditch, assistant professor of physiology; Dr. Charles Burnham Porter, demonstrator in anatomy; Dr. John Collins Warren, instructor in surgery; Dr. Reginald Heber Fitz, instructor in pathological anatomy; Dr. Edward S. Wood, assistant professor of chemistry; Pierre J. Boris, instructor in French; Albert H. Tuttle, instructor in microscopy; James Barr Ames, tutor in modern languages; Josiah Caleb Bartlett, instructor in mathematics; George T. Dippold, instructor in German; Joseph D. Brannan, instructor in German; James J. Myers, instructor in mathematics; Charles E. Monroe, assistant in chemistry; William H. Orcutt, Joseph B. Warner, George H. Adams, Edward Burgess, Henry N. Wheeler, proctors; Abraham W. Stevens, librarian in the law school; Joseph H. Senter, assistant in the general library.

The list of officers of instruction and government numbers 115 against 99 last year. The other statistics compare as follows, the figures for the present year being placed first in each case: seniors, 114, 158; juniors 128, 122; sophomores, 183, 139; freshmen, 194, 189; under-graduates, 619, 608; resident graduates, 9, 6; divinity students, 30, 37; law students, 134, 154; scientific students, 27, 35; mining students, 5, 7; medical students, 196, 301; dental students, 28, 27; farming students, 18 (nine last year); Episcopal theological students, 13, 12. Total, 1081 against 1189 last year.

Arrangements have been made so that the freshmen may take an advanced standing hereafter in Latin and Greek as well as French. Arrangements have also been made for awarding special honors in seven departments, and the faculty has established a grade of honors, in the classics and mathematics called second year honors, open both to sophomores and juniors. After 1873 no one can be a candidate at graduation for honors in the classics or mathematics, who has not previously taken second year honors in the same department. Six new scholarships have been founded: Two by Samuel Sewall, worth $250 each; two by Thomas and Nathaniel Hollis, worth $125 each; one by William Brown and his descendants, worth $150; one by the class of 1841, worth $125.

Yale College. (New Haven, Conn.)—The second term of the college year began last Thursday morning with the usual chapel exercises. The studies of the term are not definitely enough decided upon to permit of publication this week. The following appointments for the Junior Exhibition class of 1873 have been announced:

PHILOSOPHICAL ORATIONS.—E. Alexander, Knoxville, Tenn.; A. H. Allen, New York; W. Beebe, Warsaw, N. Y.; H. M. Denslow, New Canaan; W. A. Houghton, Holliston, Mass.; F. B. Tarbell, West Groton, Mass.—6.

HIGH ORATIONS.—W. T. Barber, W. Chester, Pa.; W. W. Beebe, New York; A. Biddle, Philadelphia; E. S. Cowles, Farmington; E. E. Gaylord, Ashford; I. N. Judson, New Haven; J. A. Robson, Gorham, N. Y.; F. C. Webster, Litchfield.—8.

ORATIONS.—A. B. Boardman, New York; E. H. Buckingham, Canton, Ohio; S. S. Clark, Yonkers, N. Y.; A, Collins, Hartford; R. W. Conant, New Haven W. D. Crocker, Buffalo, N. Y.; R. W. Daniels, Lockport, N. Y.; C. S. Hemingway, Fair Haven; H. W. Lathe, Worcester, Mass.; E. H. Lewis, Potosi, Wis. H. W. Lyman, Northampton, Mass.; W. F. McCook; Pittsburg, Pa.; J. P. Peters, New York; S. O. Prentice, North Stoninton; I. R. Sanford, Redding.—15.

DISSERTATIONS.—J. A. Clemmer, Cincinnati, O.; J. C. Goddard, Yonkers, N. Y.; G. Green, Norwich; P. Mountjoy, Clarksville, Mo.; M. Poston, Marysville, Cal.; J. H. Roberts, Hartford; S. T. Stewart, Cincinnati, O.; C. H. Thomas, Covington, Ken.; G. H. Wald, Cincinnati, O.; A. Watson, Northampton, Mass.; W. H. Whittaker, Covington, Ken.—11

FIRST DISPUTES.—F. W. Adee, Westchester, N. Y. C. E. Bigelow, Broyklyn, N. Y.; J. Day, Catskill, N. Y.; E. S. Miller, Williston, Vt.; F. E. Sprague, Providence, R. I.; E. M. Swift, New York; F. S. Wicks, Syracuse, N. Y.—7.

SECOND DISPUTES.—C. W. Bowen, Brooklyn, N. Y.; J. I. Chamberlin, Milton, Pa.; A. B. Morrill, Portland, Me.; W. T. Souther, Worcester, Mass.; J. H. VanBuren, Cincinnati, O.—5.

FIRST COLLOQUIES.—W. O. Buck, Bucksport, Me.; L. Carter, New York; J. W. Clemens, St. Louis, Mo.; F. W. Howard, Brooklyn, N. Y.; H. Meyer, Pittsburgh, Pa.; J. P. Ord, San Francisco, Cal.; F. S. Parker, New Haven.; A. J. Reynolds, Olcott, New York; H. A. Strong, Colchester; U. Strong, Racine, Wis.; E. Tatum New York.—11

SECOND COLLOQUIES.—F. D. Allen, Worcester, Mass. A. T. Bristow, Brooklyn, N. Y.; L. W. Irwin, Cincinnati, O.; E. R. Johns, Lexington, Ky.; S. Merritt, Stamford; H. E. Sadler, New York; S. P. Williams, Southington; S. W. Williams, Nashua, N. H.—9. Total, 72.

Professor D. Cady Eaton is to commence next Monday evening, in the main room of the Art Gallery, a course of lectures on the "History of Greek Art." They are to be continued on each Monday evening during the term, and are to be illustrated with Magic Lantern views. The price of tickets for the course is $3.00.

GLEANINGS.

PERSONAL.

— The portrait of Prof. Chas. M. Shepard of Amherst is being painted in this city.

— The biography of Sir. R. Murchison, is to be written by Prof. Geikie, of Edinburgh.

— Prof. Joseph Henry has been elected president of the United States Light House Board.

Prof. G. C. von Kaiser, professor of Chemistry and Technology in the University at Munich, died Aug. 28 at the age of 68.

— Hon. Henry R. Pierson, has been elected trustee of the Albany Medical College, in place of Gen. Franklin Townsend, resigned.

— The Rev. Francis L. Patton, of Brooklyn, the successor of Dr. Spear, has been elected to the professorship in Chicago which Dr. Prentiss did not accept.

— Prest. Fairchild and Prof. Mead, of Oberlin, are now East trying to raise funds for Council Hall. Prest. Fairchild is to deliver one of the Boston lectures.

— Prof. E. P. Barrows has accepted an invitation to fill the chair of Hebrew and old Testament Literature at Oberlin for a limited term of years. He will remove to Oberlin during the coming season.

— Prof. Raphael Pumpelly of Harvard University has been appointed by the Geological Board of Missouri, as State Geologist. We see also that Prof. Swallow has been appointed to the same position.

— Prest. George F. Magoun, of Iowa College, delivers the first of the Boston Lectures on "Christianity and Skepticism" for 1872, during the evening of January 14th and the afternoon of the 15th.

COLLEGE.

— Pacific University, Oregon, has some $30,000 of property, and about 5,000 volumes in its library.

— The senior class at Dartmouth College has raised $300 to increase the libraries of the literary societies.

— Washburn College, at Topeka, Kansas, has raised $30,000 in that village—an average of $5 to each inhabitant of the place.

— It is said that a new chair in Greek is to be established in the North-Western Christian University, at Indianapolis, Indiana.

— Mr. John Proctor of Anderson, N. H., added, Christmas day, $1000 to his previous gifts to the Chandler school of Dartmouth college.

— A committee of the Alumni of Princeton Seminary is vigorously at work securing the endowment of the "Hodge Professorship of Theology."

— A class in natural science has been formed in the College for Women at Hitchen, England. Mr. Hicks, of Sidney Sussex College, Cambridge, is the lecturer.

— Hanover College, Indiana, has an endowment that now reaches $125,000. Its property is estimated at $105,000. The accommodations are sufficient for 500 students.

— The Will of the Rev. N. S. Beman provides that after the death of his daughter the sum of $10,000 shall go to Middlebury College to found a professorship, to be called "Beman."

— A movement is on foot for the opening of the Congressional Law Library in the evening to accomodate the Law classes of Columbian College and Howard University.

— Northfield College, Minnesota, having received $50,000 from Wm. Carleton, Esq., of Charlestown, has taken his name. Carleton College has endowment funds, of $52,000.

— The "Collego Rabbinco" at Padua, closed its activity on the 12th of September, "provisionally," but it is feared that it will take a long time before Italy will again have a Talmudical college.

The Monmouth College at Monmouth, Ill., has just made quite an addition to its cabinet. It consists of Chinese curiosities presented by a Presbyterian Missionary stationed in that country.

— About 130 of the 350 undergraduates of Dartmouth College are said to be absent teaching this winter, and this number is less than usual, as more than usual aid is now furnished to indigent students.

— Tufts College is receiving liberal endowment gifts. The Will of the late Dr. Oliver Dean, just admitted to probate, bequeaths it $80,000, and the late Mrs. Jacob Whiting, of South Higanum has left $3,000 more. The college is also a residuary legatee of Dr. Dean to a large amount.

— The Library of Newton Theological Institute contains 12,508 volumes. Net increase for the year preceeding June last was 338 volumes. Of this number 85 were donated. Splendid fac-similes of the ancient and valuable Biblical manuscripts, entitled "*Bibliorum Sacrorum Græcus Codex Vaticanus*," and "*Bibliorum Codex Sinaiticus*," comprising seven volumes, have been received from a friend of the Institution.

MISCELLANEOUS.

— The annual dinner of the Dartmouth Alumni in Boston and vicinity will be held Thursday, Jan. 18.

— The total destruction of school buildings and school apparatus by the recent fire in Chicago, is valued at $298,000.

— The woman suffragists propose to ask the legislature to compel Harvard and Amherst Colleges to open their doors to female students.

— The annual dinner of the alumni of Williams College in Boston and vicinity will occur at the Parker house on Mouday evening, January 8.

— A valuable library has been purchased in New York City, to be presented to the city of Omaha, as a gift from Mr. Pattee, an early pioneer and citizen of Omaha.

— Mr. S. S. Packard has for some years held open a standing offer to educate gratuitously fifty women in his business college. He states that the result has been two hundred applications, twenty trials, and two successes.

— Professor Huxley states, from facts that have come to his knowledge as a member of the Royal Commission that the University of Oxford has devoted about £100,000 within the last ten or fifteen years to the endowment and equipment of facilities for teaching physical science.

Whisky.—It is stated that when Russian troops are about to start on a march in a very cold region, no grog is allowed. The men once drawn up, it becomes the corporal's duty to smell their breath and send back all who have been drinking. Many more examples might ibe cited, to prove that it is the universal experience o all who have fairly tested it, that alcohol diminishes our power to resist cold.

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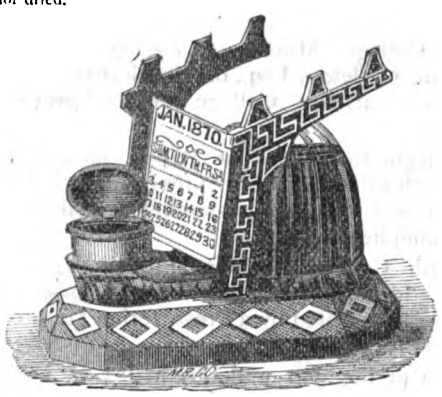

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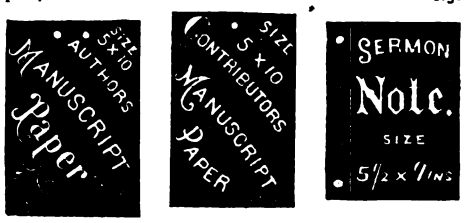

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, JANUARY 13, 1872. NUMBER 2.

YALE COLLEGE.

POST-GRADUATE STUDIES.

[The following letter was called out by a formal request from the editor of *The Tribune* for a statement of the post-graduate scheme of study, established in Yale College. It was prepared upon consultation with several of the college officers, and although based on the announcements of the catalogue, presents the data in a form more generally intelligible than the schedule of the "Department of Philosophy and the Arts." Two or three typographical errors are corrected in this reprint. *The Tribune* thus referred to this letter in its editorial columns: "Yale College is showing itself worthy its great name and fame. The arrangements now concluded at New Haven for the studies of Post-Graduates are liberal, and seem admirably adapted to the demand for a thorough course of university education. The system as explained in the columns of *The Tribune* to-day, is certainly comprehensive, and the names of the professors whose labors are included in the scheme of Post-Graduate instruction are of men eminent in science and literature. Yale is entering upon a new epoch in its existence, and, though the curriculum which has just been adopted for advanced students is not the growth of any special exigency, it is a cheerful indication of the coming career of the College."]

The plans adopted at New Haven for the promotion of Post-Graduate study differ in several important respects from those which have been proposed in other American colleges and universities, and are interesting, not because they are schemes on paper, but because they are methods in actual operation. They are not the device of any individual, nor the project of any particular crisis, but are rather the natural development of the resources of a complex and long-established institution.

There are now 45 post-graduate students in the university at New Haven, not including the casual hearers of lectures, or the students connected with the departments of law, medicine, and theology. There are also ten "special students," who are pursuing courses akin to those of the post-graduates, but are not so enrolled (although, perhaps, quite worthy to be), because they have not received an academic diploma. Seven of the 45 are simultaneously pursuing advanced scientific and philological studies. Three are Doctors of Medicine, two are clergymen, seven have taken the degree of Master of Arts, one that of Doctor of Philosophy, one that of Bachelor of Laws, one that of Bachelor of Divinity, and one that of Civil Engineer. The remainder have taken either the degree of Bachelor of Arts or Bachelor of Philosophy. They came from seven or eight different colleges, and from ten different states. Their present studies differ as much as their preliminary training. Eight are enrolled in the philological classes; nearly as many are devoted to history and political economy; eight are at work in the analytical laboratory of chemistry; eleven are preparing to become civil or dynamic engineers; three are advanced students in natural history; and some are devoted to the higher mathematics and physics.

There are several departments of learning in which systematic courses of instruction, covering a period of two years, are marked out. For example, Prof. W. D. Whitney, whose professorship has been lately fully endowed by Mr. Salisbury, has arranged a course of study in Sanskrit, the general principles of linguistics, and the comparative philology of the Indo-European languages. The other linguistic professors, Messrs. Hadley, Packard, Van Name, Day, Coe, and Lounsbury, in their different specialties coöperate with him. In the pure and applied mathematics, including mathematical physics and astronomy, another group of six professors has also announced a connected plan of instruction which has attracted several scholars. So, again, Dr. Woolsey and the Professor of History are conducting a class in History, International Law, and Political Economy.

Besides this the Sheffield Scientific School, since its origin, has offered post-graduate courses of study to all who would seek them, and nearly or quite all of the instructors in that department of the college are more or less occupied by this class of students. The studies specially represented here are chemistry, mineralogy, botany, zoology, physics, practical astronomy, and engineering.

The corporation of Yale College confers the degree of Doctor of Philosophy on those who remain here two or three years pursing definite courses of study, and who pass the required examinations. This degree is never bestowed as a mere honorary distinction. Since it was established, in 1861, 19 persons have taken it almost all of whom have been men of marked ability, who have rapidly found preferment. Ten already hold professorships in colleges, two are in the diplomatic and consular service, two are in editorial life, one is a clergyman, one is head of an academy, one is the chemist of an iron works, and one is still enrolled as a special student in natural history.

The most noteworthy features in these arrangements are the following: 1. *Individual Freedom.*—Each instructor offers from year to year such a scheme of work as seems to him good; and so each student is free to choose what course he will pursue or what instructor he will attend. The student's choice may depend on his probable calling in life, his mental aptitude, the time he can spend or the pecuniary means at his disposal. 2. *Combination of Courses.*—The work of different professors is so distributed that there is little or no overlapping or duplication, and also so that it is easy for the scholar to combine the instructions of several teachers in one methodical course. Several such courses have been definitely marked out as a guide to the student. 3. *Personal Instructions.*—The classes being small, the freest inquiry on the part of the student is encouraged. Familiar recitations, often in the private study of the Professors; practical work, with apparatus or instruments; and the constant recurrence to original authorities, are the usual modes of instruction, rather than formal lectures addressed to classes of considerable size. In Natural History, qualified students are encouraged to go with their Professors on scientific excursions in the neighbourhood and at a distance. 4. *Definite requirements for a Degree.*—While a student may remain here only for a portion of a year, and may have the freedom referred to, yet if he wishes the diploma of the College, it can only be secured by continued residence, definite studies, a creditable graduation thesis, and a satisfactory examination. 5. *Easy access to Libraries and Collections.*—All the literary and scientific collections of the College are freely open to University students; these collections include those of the Professors, some of which are of superior value.

The inquiry having frequently been made as to whether there is a school for journalism, it may be said that there is no such organization announced in the catalogue; but much of the graduate instruction, particularly that in history, political economy, modern languages, and English literature has an important bearing upon the editorialprofession, and is well adapted for the advanced training of those young men who expect to be engaged in public life, whether as writers, lawyers, or governmental officers.

As the following scheme has never been drawn out in a connected form, it may be of interest as an appendix to this statement.

COURSES FOR POST GRADUATE STUDENTS.

Directed by Professors in Yale College, including those of the Sheffield Scientific School. 1871–2.

1. President N. Porter, in psychology, logic, and the history of philosophy.
2. Ex-President T. D. Woolsey, in polity, political economy, and international law.
3. Prof. Elias Loomis, in meteorology, with special reference to the making and reducing meteorological observations.
4. Prof. Wm. A. Norton (a), in civil engineering, (b) in the mechanics of rigid bodies and fluids and (c) in spherical astronomy including the computation of planetary and cometary orbits.
5. Prof. T. A. Thacher, in selected plays of Plautus and Terence, with special reference to early Latin forms, constructions and meters.
6. Prof. C. S. Lyman, in the use of meridional and other astronomical instruments.
7. Prof. J. Hadley (a), in the structure of the Greek language, as related to the general system of the Indo-European family, and (b) in the Gothic of Ulfilas.
8. Prof. W. D. Whitney (a), in Sanskrit, (b) in the general principles of linguistic science, and (c) in the comparative philology of the Indo-European languages.
9. Prof. Wm. P. Trowbridge, in thermodynamics, or the conservation of energy.
10. Prof. H. A. Newton, in the calculus, in statics, the dynamics of a particle, in the lunar planetary theories, and in the higher geometry.
11. Prof. Geo. J. Brush, in mineralogy.
12. Prof. D. C. Gilman, in the physical geography of Europe and the United States, in connection with their history.
13. Prof. S. W. Johnson, in theoretical and agricultural chemistry.
14. Prof. W. H. Brewer, in agriculture.
15. Prof. L. R. Packard, in the more difficult Greek authors.
16. Prof. Daniel C. Eaton, in botany.
17. Prof. A. M. Wheeler, in English and American constitutional history, and in general history.
18. Prof. J. W. Gibbs, in the theories of capillarity, wave motion, and the potential function.
19. Prof. O. C. Marsh, in palæontology.
20. Prof. T. R. Lounsbury, in Anglo-Saxon, and in the earlier forms and literature of the English language.
21. Prof. O. D. Allen, in metallurgy and analytical chemistry.
22. Prof. E. B. Coe, in the relation of the modern Romanic languages, especially the French to the Latin, and in the early French literature.
23. Prof. A. E. Verrill, in zoölogy.

This schedule does not include the work of the Medical, Law and Divinity Schools. It may be added that besides the gentlemen already named, Prof. Day of the Theological Department will instruct in Hebrew. Prof. Jas. D. Dana may be consulted by advanced students in Geology and Natural History, and in favorable seasons will conduct scientific excursions in the neighbourhood. In the Art School, courses of lectures will be given this Winter by Prof. Weir, on Painting, and by Prof. Eaton on the History of Art. Prof. Hadley also lectures in the Law School, on the Roman Law.

THE WOMAN QUESTION—ITS EDUCATIONAL PHASE.

Among the advocates of this great movement of the nineteenth century, there are some of us who are apt occasionally to fall into despondency. We regard the regeneration, at which we aim, as of such inherent gigantic difficulty, as having to counterwork the baneful devastations of such a period of potent influences for evil, that we sometimes fear we shall none of us live to see even the auroral beginnings of the consummation so devoutly wished for. In a word, we fear that as the present degraded condition of woman is the terrible fruit of six thousand years of blighting and progressively deeper-ravaging subjugation to man, so it may require likewise an immense period (1) to counterwork the dreadful depressing consequences of this state so far as to let woman rise simply to her normal God-given

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starting-point, (2) to give to her the positive elevating advantages of the six thousand years of culture which man has stolen in advance of her. Entertaining these views, we fear and tremble lest our cherished reform be doomed to wait and suffer through so many dreary ages to come, before we can have any reasonable hope of convincing a gainsaying world of the righteousness of our cause, by showing even the first-fruits of its beneficent workings.

For when such a question as this is directly put to us by the conservatists: "Why is not there to be found, in the innumerable list of philosophers, a single woman? why has there never been a female Thales, Zeno, Plato, Augustine, Erigenus, Malebranche, Cudworth, Kant, and Cousin?" are we not accustomed to answer triumyphantl, from one end of the country to the other: "Because woman has never had a chance! because she has been sweltering under the soul-quenching incubus of man's tyranny?" And the whole category of taunting questions, or rather insults, has been answered in the same manner. Thus:—"Why has no woman ever acquired renown as a scientist? why is no woman's name associated with the origin of any of the many sciences? why did no woman discover or invent gunpowder, the compass, printing, telegraphy, steam-power, electricity, photography, spectroscopy, or even the power loom or sewing machine? Why has no woman ever attained a name as a law-giver? why was there never a female Solon, Vulpian, Grotius, Montesquieu? Why were none of the gentile religion founders a woman? why was there never a female Confucius, Buddha, Socrates, Mahomet? Why has no woman ever risen to a first-class place in poetry? why has there never been a female Homer, Aeschylus, Dante, Shakespeare, Goethe? why has there never been a female second-rate Virgil, Milton, Schiller? Why has God never chosen a woman to be one of the mediums of his written Word to man? why is there not a female authoress for a single one of the sixty-six books in the Bible? Why was not the Saviour of the world a female? why was there not a single woman among the twelve Apostles?" To all and sundry of these taunts, have we not been accustomed to return the selfsame answer, namely, "that it is simply because woman has from the very start been kept under so that her talents have never had a fair and equal chance; and because the baneful effects of this oppression have been aggravating themselves from generation to generation."

Now, have we not made a radical mistake in one phase of this argument, thereby unnecessarily magnifying the difficulty of the woman reformation? Have we not thrown its possible success needlessly far into the future, thus giving occasion to manifold discouragements in the champions of our cause? The fact is, the possibility of a perfect realization of the great reform—or at least of the essential phase of it, namely, the making of womankind perfectly equal to mankind in all intellectual and spiritual productiveness, lies immediately before us, within the brief space of twenty years at furthest. Most of us may even ourselves live to see this crowning result.

Let us explain. The putting of the possibility of the full consummation of the reform into the far future, rests on the assumption that woman's present condition, as compared to man's, is the *accumulated* results of ages of inherited degradation. Now, is not this assumption utterly without basis? Let us see. All physiologists are agreed that every infant, male or female, is the joint product of a male and female, and that the male and female contribute equally to the result; in other words, that it is half its father's and half its mother's, physically and intellectually. No scientific authority denies this. But even should it be said by some, that the child is more a reproduction of its mother than its father, still none would think of saying that the same proportion of paternal and maternal elements do not enter equally into the child, whether it be male or female. This being the case, what inevitably follows? It follows that each male child born is fully as much a sufferer from the degraded condition of its mother as each female child; that both are equal sufferers, and that if the son inherits its mother's nature as compounded with the higher nature of its father, so also does the daughter. So that, at birth, each and all, brothers and sisters, from the time of Adam to the present day, have had precisely an equal chance of scaling the fortresses of fame and greatness. If this be true, all the difference in the actual attainments and performances of woman and man is to be attributed to the baneful and depressing influences that man and woman have allowed to begin to operate upon their daughters *from and after the day of their birth*—influences which they have not permitted to operate upon their sons. But, more especially, this difference is brought about by the fact that mothers, by a strange perversity, actually begin, as soon as their sons are born, to prefer them to their daughters, and to lavish care upon them to the neglect of their daughters, and that they continue treating them so through all the years of their minority; and by the further fact that fathers, neighbors and friends, act likewise partially toward the sons, to the neglect of the daughters; and, finally by the fact that all other means of culture—schools, books, general literature, etc.—to which daughters have access, are inferior to those which are liberally furnished to the sons.

These unquestioned and undoubted facts (what other assumption is possible?) throw a new light upon our whole enterprise; in fact they present it in a much more hopeful view than we have hitherto been accustomed to look at it. Though diminishing the magnitude of the work to be done, on the one hand, yet, on the other, they give us stronger hopes of speedy success. They deprive us, it is true, of one of our time-honored arguments, arguments which are valid in the case of the negro, but do not apply to woman for she is not a race *apart and by herself*, but is flesh of our flesh, as indeed we are also of hers. And herein we see one of those wise self-vindicating laws of nature, namely, that while, in all the past, man has been oppressing woman, he has at the same time by the very constitution of nature, been suffering from the reaction of that oppression upon himself. But these facts have also the advantage of wonderfully re arranging and defining the field of our efforts. We need no longer waste our lungs in depicting and execrating the wrongs of woman in the distant past. So long as there is so much of vital practical work to be done right before us, there is little propriety in spending so much time in dealing out a poetic justice to the dead and buried past.

What then is the earnest work to which we are now actually called, that is, if we are sincere in our advocacy of woman's cause? It may be summed up thus: (1) Let mothers cease to bestow more care on their sons than on their daughters. (2) Let fathers do likewise. (3) Let girls have as good educational opportunities as boys. If masculine colleges will not admit girls, then let our wealthy women, of whom there are many, and generous daughter-loving men, endow colleges, and hire the best of teaching-talent. (4) Let us women-reformers, renouncing all hope from man as a whole, turn our attention at once and exclusively to women, and open their eyes to the noble sphere that is lying right within their grasp. Twenty years of extra effort on the part of the mother, and an earnest helping hand from the generous-hearted men that are already embarked in the cause, will work wonders. We may then look for a generation of *normal* women fully equal to their masculine oppressors. But until this period is passed, let all taunts from women-hating men cease. And let no one ungallantly ask, or even wonder, why there has never been a lady Homer, or Plato, or Shakespeare! Wait till woman has had twenty years of fair play! *

HONORARY DEGREES.

The refusal of an honorary degree from the Trustees of Dartmouth College, has called forth some discussion in the New York *Evangelist*, on the propriety and utility of such degrees. In former years, Moses Stuart, Albert Barnes and Henry Ward Beecher declined similar honors from other colleges. Such men have urged the unchristian character of such honors, and with a lofty humility, as it seems to me, scorn the proffered title.

But it may reasonably be asked, does the modern Doctor of Divinity properly represent the Jewish Rabbi? Is he proud, pretentious, dictatorial and tyrannical in matters of faith as was the Hebrew teacher or doctor? If so, he justly falls under the censure of his master, Christ. Many people quote Scripture by sound, as the Romans quoted the Sibylline books. "Call no man master," says the Saviour; call no man doctor, says the Quaker; "swear not at all" says the Saviour; swear not in courts of law, says the Quaker. "Let your yea be yea, and your nay, nay," says the Saviour; answer all men with yea and nay, says the Quaker. Now, if Christ meant to condemn all titles, why does he often allow himself to be called Rabbi, without rebuke? Why did he choose twelve men and call them "apostles," a name which to this day, ranks higher than that of Kings? Why are church members in the Bible called "Saint," a title far above that of Bishop, Presbyter, Deacon, Pastor, Evangelist, or Elder. "Call no man master," says the Scripture. Master is the same as Mister, therefore we must call out divines, who are often only human, Moses, Albert, Henry and Titus. Why should every man who does the pastor's work be addressed "Reverend." The truth is, ministers love distinction quite as much as laymen. They are men of like passions with us. Now if Titus Coan felt the degree conferred upon him by Dartmouth College, in good faith and firm, sincere respect, to be a burden, why did he not bear it with resignation as he probably does other afflictions? Why write to Henry Ward Beecher, the Hercules of reform, to aid him in lifting the heavy load from his feeble shoulders?

The true motive for declining such honors is probably a lofty self-respect which looks down upon the proffered aid of others. Coleridge tells us of a man who had such an overwhelming self-esteem, that he never spoke of himself without taking off his hat. It is to be hoped that colleges will take warning from the admonitions they have received, and confer no more honorary degrees till they feel assured that they will be welcome. Still, it will remain true, as Aristotle remarks, that whoever is indifferent to the sympathy of his fellow men must be either "a wild beast or a god." LL.D.

THE ROBERT COLLEGE AT CONSTANTINOPLE.

Rev. Dr. Hamlin, President of the college near Constantinople founded by C. R. Robert, Esq., of New York, is now in this country, and has recently addressed a public meeting in New York with regard to the history and success of the institution of which he is the head. We make the following extract from his address as it is printed in a pamphlet form—confident that all our readers who are acquainted with this enterprise will rejoice in its excellent progress and in its hope of future usefulness.

The college has been for some years entirely self-supporting. The students pay forty pounds sterling, or about two hundred dollars, in gold, per annum; and this has been found sufficient to pay all the salaries and all the expenses of the establishment, of every kind. Nearly all the students being boarding students, we have them under our own watch and care, as a great family—a system which is demanded by the customs of the country, and which gives great moral power over the students there assembled. From the beginning, this college was founded on the principle of its being conducted on a sound financial basis. A regular set of books is kept here in New York, and all the expenditures of every kind are transferred from Constantinople to New York every month; so that the Trustees know exactly what we are doing and what is the state of the receipts and expenditures. At the close of the last

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year, the receipts from the students exceeded the expenditures by nearly $1,500, and after giving to indigent students, from the college funds, assistance amounting to about $1,000, there remains $500 in the treasury. We do not come to you, then, for aid for an institution which is in any financial difficulty. It is already a financial success; it meets all its own expenses; and, more than that, it leaves a balance in the treasury; and yet, we come to you for $300,000, which, after mature and often repeated deliberation, is the smallest sum which we believe will answer the demands of the enterprise at this point of its history. And why do we make this demand? A building has been erected for the accommodation of two hundred and fifty students, together with most of their teachers, and it was believed, when this building was planned, that it would be sufficient for many years to come. The old building was crowded, and we were under the necessity of enlarging it; and yet, we rejected many students, telling them, however, that when our new building is erected we shall be able to receive all who come. At the close of the college history in the old building we had about one hundred students, of whom seventy-two were boarders. In passing into the new building it was our intention to receive, the first year, ninety new students, reserving places for the class of the following year. In less than one month from that time, eighty new students had been received, although the panic resulting from the spread of the cholera in Constantinople had prevented very many students from coming, and taken away some of the former students; and yet, not more than ten of the ninety places remained unoccupied in less than one month from the opening of the college, and applications were then being made at the rate of about two per day; so that, undoubtedly, before this time every place has been occupied. The months of April and May always bring us a large accession of students, and there will not be a place for them unless we trench on the places reserved for the following year and fill them up. There is no doubt whatever that had not the cholera panic intervened, the whole institution would have been invaded and filled during the first month or two of the college year. Now this, when we look back upon the history of the college, is no sudden influx of numbers, for there has been a regular increase from the beginning; and it is in consequence of that remarkable awakening to the subject of education which pervades the entire East, which penetrates the Osmanlee community as well as the Christian, and which loudly demands female education as well as male, and which would fill up a college for the female sex as readily and as quickly as it has filled up this college for the sons of those different nationalities. Now, the question which comes before us is, shall we meet the providential demand upon us? If so, we must double, at least, the premises which have been erected for the accommodation of students. We have, then, to erect, first, another large hall, which, besides furnishing rooms for two hundred and fifty students, shall give us a large chapel room and a large library room. This structure will cost us twenty thousand pounds sterling, or one hundred thousand dollars (gold). We must endow four professorships, leaving the twenty-five or thirty other teachers or professors who will be needed for the five hundred students to be provided for from the annual income of the college, derived from its students. We need eight thousand pounds, or forty thousand dollars for the erection of four professors' houses; and I would remark that all these buildings, like the one which has been erected, will be thoroughly fire-proof, with iron beams and brick arches for the flooring, erected of solid and durable stone, quarried from the place, like the stone composing the towers, which have stood four hundred years, unaffected by time; and thus the buildings will all be proof against the power of fire and the power of time. We need, besides this, $35,000 for the library—which must consist of eight or nine languages—for the laboratory, and as an endowment for the increase of the library. As we have so many nationalities to provide for, we must have an oriental library, containing the best works in history and poetry—and they are not few—in the Turkish, Persian, and Arabic languages; and then all the modern and classical literature that exists in the Greek language and in the Slavonic and Armenian; and then a library in the French, German, Italian, and Spanish lauguages, because our students are drawn from all these nationalities, and therefore, the library must be full, in reference to them all. And all this demands, if we are to meet the providential claims upon us, the expenditure of the sum which I have mentioned—a sum which I cut down from $500,000 to $300,000.

THE IMPERIAL COLLEGE AT PEKING.

In a recent lettter to the New York Daily *Times*, which bears the signature "Q," we find the following allusions to the Imperial University in Peking, accompanied with a reference to the progress of liberal ideas in China, and the mention of a graduate of Yale, Yung Wing of the class of 1854:

As for the Chinese, instead of advancing in the line of progress just at present, they seem rather inclined to beat a retreat. Fortunately the ratchet wheel of treaty stipulation is behind them to prevent their revolution from going backward with a sudden and disastrous recoil. Disappointing this certainly is, but disheartening it should not be. It was hardly to be expected that this ancient people would renounce the traditions of their fathers, and adopt the ideas of the younger West without a struggle. Among such a mass of human beings, without railway, telegraph, or newspaper, new ideas circulate but slowly. Still new ideas do circulate, and now and then we see evidence that they are making a decided impression in influential quarters.

Some years ago, it will be recollected, an effort was made by Prince Kung, and his associates, to induce members of the Imperial Academy, the Hanlin and others of the highest literary grade, to become students in a new institution for the cultivation of what is here called Western science. The very name was unpopular. The noted scholars of the Empire scouted the idea of learning from men whom they were accustomed to treat as "barbarians;" and Cabinet Ministers and Imperial Censors united in denouncing the measure as revolutionary in tendency, and derogatory to the dignity of China.

A measure of a more revolutionary character is now proposed by Yingkoe, one of the Tarter Viceroys, viz: To add a branch to the civil service examination system for the special encouragement of scientific studies among the learned and influential classes. The Emperor referred the question to the Board of Rites—the official guardians of ancient routine. They, of course, reported against it, alleging that they feared there would be none prepared to come over if they were invited; that old custom was opposed to such a course; that it would be better for such students to be matriculated in the Confucion College—at the same time informing His Majesty that the said college has a department for mathematics, (which, however, is dormant if not dead,) and reminding him that one of his illustrious ancestors prepared and published a cyclopedia of mathematical science, which was to be the "standard for all ages."

Thus the movement was checked, but not extinguished. There are other men high in position who have it in heart, and who will revive it, perhaps in a more effective form. In the meantime we know that steps are being taken under the auspices of the Viceroy of Nanking to send a select corps of young men to America for education as the Japanese have done. This is at the instance of Mr. Yung Wing, a native gentlemen, who was educated at Yale College.

These movements and others of an auspicious character are lost sight of amid the roar and tumult of popular hostility.

THE HASSLER EXPEDITION.

The following letter from Professor Agassiz, to Professor Benjamin Pierce, Superintendent of the United States Coast Survey, gives the first results of the Scientific expedition recently undertaken in the steamer Hassler.

My Dear Professor:—For several days after we left Boston I was greatly troubled by a sense of general weakness, so much so that more than once I thought I had undertaken more than I had strength for. But as soon as we got into warmer latitudes I felt better, and now I am actually improving beyond my condition at the start. As soon as we reached the Gulf Stream we began work. Indeed Pourtales organized a party to study the temperatures as soon as we passed Gay Head, and he will himself report his results to you, which are quite interesting. My attention was entirely turned to the gulf-weed and its inhabitants, of which we made extensive collections. Our observations favor the views of those who believe that the floating weed is derived from plants torn from rocks upon which sargassum naturally grows. I made a very simple experiment which seems to me to settle the matter. Every branch of the sea-weed which is deprived of its floats at once sinks to the bottom of the water, and these floats are not likely to be the first parts developed from the spores. Moreover, after examining a very large quantity of the weed, I can say that I have not seen a branch however small which did not exhibit distinct marks of having been torn from a solid attachment.

You may hardly feel an interest in my zoölogical observations, but I am sure you will be pleased to learn that we had the best opportunity of carefully examining most of the animals known to inhabit the gulf-weed, and some which I did not know to occur among them. However, the most interesting discovery of the voyage thus far is the finding of a nest built by a fish, floating on the broad ocean with its live freight. On the 13th of the month Mr. Mansfield, one of the officers of the Hassler, brought me a ball of gulf-weed which he had just picked up, and which excited my curiosity to the utmost. It was a round mass of sargassum, about the size of two fists, rolled up together. The whole consisted to all appearance of nothing but gulf-weed, the branches and leaves of which were, however, evidently knit together and not only balled into a roundish mass, for though some of the leaves and branches hung loose from the rest, it became at once visible that the bulk of the ball was held together by threads trending in every direction among the sea-weeds as if a couple handfuls of branches of sargassum had been rolled up together with elastic threads trending in every direction. Put back into a large bowl of water it became apparent that this mass of sea-weeds was a nest, the central part of which was more closely bound up together in the form of a ball with several loose branches extending in various directions, by which the whole was kept floating.

A more careful examination very soon revealed the fact that the elastic threads which held the gulf-weed together were beaded at intervals, sometimes two or three beads being close together, or a bunch of them hanging from the same cluster of threads, or they were more rarely scattered at a greater distance one from the other. Nowhere was there much regularity observable in the distribution of the beads, and they were found scattered throughout the whole ball of sea-weeds pretty uniformly. The beads themselves were about the size of an ordinary pin's head. We had, no doubt, a nest before us of the most curious kind, full of eggs too, and the eggs scattered throughout the mass of the nest and not placed together in a cavity of the whole structure.

What animal could have built this singular nest, was the next question. It did not take much time to ascertain the class of the animal kingdom to which it belongs. A common pocket lens at once revealed two large eyes upon the side of the head and a tail bent over the back of the body, as the embryo uniformly appears in ordin-

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ary fishes shortly before the period of hatching. The many empty egg-cases observed in the nest gave promise of an early opportunity of seeing some embryos freeing themselves from their envelopes. Meanwhile a number of these eggs with live embryos were cut out of the nest and placed in separate glass jars to multiply the chances of preserving them, while the nest as a whole was secured in alcohol as a memorial of our unexpected discovery.

The next day I found two embryos in one of my glass jars; they occasionally moved in jerks and then rested for a long while motionless on the bottom of the jar. On the third day I had over a dozen of these young fishes in my rack, the oldest of which begin to be more active and promise to afford further opportunity for study. I need not relate in detail the evidences I soon obtained that these embryos were fishes. Suffice it to say that the dorsal cord with its heterocercal bent was readily visible, as well as the candal fin with its rays. In the eyes the coloboma had not yet been fully closed, and blood currents were unmistakable upon the yolk bag. But what kind of fish was this? About the time of hatching, the fins of this class of animals differ too much from those of the adult, and the general form exhibits too few peculiarities, to afford any clew to this problem. I could only suppose that it would likely prove to be one of the pelagic species of the Atlantic, and of these the most common are exocoetus, naucrates, scopelus, chironectes, syngnethus, monacanthus, tetraodon, and diodon. Was there a way to come nearer to a correct solution of my doubts?

As I had in former years made a somewhat extensive study of the pigment cells of the skin in a variety of young fishes, I now resorted to this method to identify my embryos. Happily we had on board several pelagic fishes alive, which could afford means of comparison, but unfortunately the steamer was shaking too much and rolling too heavily for microscopic observation of even moderately high powers. Nothing, however, should be left untried, and the very first comparison I made secured the desired result. The pigment cells of a young chironectes pictus proved identical with our little embryos. It thus stands as a well-authenticated fact that the common pelagic chironectes of the Atlantic (named chironectes pictus by Cuvier) builds a nest for its eggs in which the progeny is wrapped up with the materials of which the nest itself is composed, and as these materials are living gulf-weed, the fish cradle, rocking upon the deep ocean, is carried along as an undying arbor, affording at the same time protection and afterwards food for its living freight.

This marvelous story acquires additional interest if we now take into consideration what are the characteristic peculiarities of the chironectes. As its name indicates, it has fins like hands; that is to say, the pectoral fins are supported by a kind of prolonged wrist-like appendages, and the rays of the ventrals are not unlike rude fingers. With these limbs these fishes have long been known to attach themselves to sea-weeds, and rather to walk than to swim in their natural element. But now that we have become acquainted with their mode of reproduction, it may fairly be asked if the most important use to which their peculiarly constructed fins are put is not probably in building their nest?

The discovery of this nest was quite accidental but not so the examination of the large masses of the floating weeds which we met with as soon as we entered on the waters of the Gulf stream. I had made it my chief business to examine the floating sargassum with the intention of solving if possible the question of its origin. I had delivered a lecture to all on board in which was stated all I knew upon the subject, and what I wanted to ascertain further, thus hoping to enlist the interest of the officers of the ship and of my scientific fellow-travelers in the object of my search. I had told them that I did not believe that the gulf-weed could multiply while floating, even though the floating branches might enlarge. I had suggested the gathering of the smallest branches of the weed with a view to ascertaining whether or not all, even the very smallest, bore signs of having been torn violently away from a fixed attachment. From that day not a patch of gulf-weed passed our ship within reach, that was not carefully looked at and hauled up if it presented any peculiar appearance, and no doubt I have my reward for that lecture in the discovery of the nest of chironectes.

There remains one closing chapter to add to this story. May some naturalist becalmed among the gulf-weed, have the good fortune of witnessing the process by which the nest is built. From an embryological point of view these little fishes are quite interesting. In the first place the embryonal vertical fin, which extends along the whole back in the fish embryos thus far known, begins very far behind in the young chironectes, and does not exist upon the neck and back. In the second place the position of the heart is very peculiar. Instead of lying at the junction of the yolk bag with the head, it occupies a low position in the front part of the yolk.

All the officers of the Hassler are indefatigable in their efforts to help our investigations, and even the men show useful interest in our proceedings. We have just reached St. Thomas, so that I have nothing to add as to observations made here. Ever truly your friend,

St. Thomas, W. I., Dec. 15, 1871. L. AGASSIZ.

Professor Benjamin Peirce, Superintendent United States Coast Survey.

SNOBBERY IN COLLEGES.

It was quite plainly intimated by delegates to the late New York Methodist State Convention that the distinctions of wealth were so far recognized in American colleges that the lot of students of narrow means was made quite a hard one. Through the operation of class and other secret societies, it is in the power of the students to control some college distinctions; and these are not usually accorded to scholarship and worth, but to the popularity secured by the free spending of money.

We suspect that this statement exaggerates an evil which to some extent exists. And yet an article in the *College Courant*, by Chancellor Crosby, on "Secrets Societies Among Students," reveals some painful truths. He says:

"I object to secret societies, that they . . . absorb the attention. The nucleus of college life is there rather than in the lecture-room or study. I always found the best students were those who either keep out of secret societies, or who entered very slightly into their operations. Some of the societies strove to gain the best students, it is true, and so to gain a high standing with the Faculty and the college; but these best students were generally figure-heads. The Napoleons of the secret societies were very low on the college record. These societies upset the foundations of honor by making it honorable for a member to neglect his college duties, in order to perform the behests of his *Alpha Mu* or *Tau Delta;* and so they shield the offender against academic law, and give him a sort of glory, where he should be drenched with disgrace."

Thus, a new standard of honor, one at war with the vital spirit of a seat of learning, is set up, and another—good-fellowship, in its lowest sense—substituted. And here, we suppose, the money distinctions come into play. Of all communities in the world, the college should be the best example of a pure democracy. Scholarship and worth should be the only recognized claims to honor, and the factitious distinctions which part men from each other in the great world, held in stern abeyance. The whole spirit of a seat of learning should be a constant rebuke to the self-assertion which has no ground of personal merit to rest upon. What have the pomp and pride of the world to do there? In the realm of learning, he is richest who is most richly illumined with truth, and uses it most freely for the benefit and solace of mankind.

There is an old story of a son of a noble English house, who was sent to Eton, and, appearing on the playground, was asked: "And who are you?" "I am," he answered, "the Marquis so-and-so, and son of Duke so-and-so." "Here, then," said the questioner, suiting the action to the word, "is a kick for the Marquis, and here is another for the Duke." It was a rough lesson, but a good one. That quality which we call manliness, and which it is the especial work of colleges to foster, rests upon a respect for what is in one's self, aside from the possession of external advantages, and a respect for others measured by their inner worth. The setting up of external distinctions as a standard defeats the object for which a college exists, and is the intrusion of the snobbishness which is the bane of the outer world.—*The Methodist.*

SCIENTIFIC.

The November Star-Shower.—Professor H. A. Newton says in a note to "*Nature*," that between 11.20 P.M., on November 13th, and 1.45 A.M., November 14th, ninety-eight meteors were seen, although the sky was cloudy; not more than one-tenth of these, however, belonged to the November meteor stream. Hence Prof. Newton thinks that if the earth met the stream this year, it was either before or after the interval of observation.

A Remarkable Fossil Bird.—In a recent letter to Professor Dana, Professor Marsh describes the skeleton of a remarkable fossil bird discovered during the last summer's explorations, in the upper cretaceous formation of Western Kansas. This gigantic bird, which must have been at least five feet in length, while its vertebræ and other parts of its skeleton show it to be correctly classed, yet differs widely from any known or extinct forms, and "afford a fine example of a comprehensive type." The femur is very short, the other leg bones quite long. The metatarsal bones appear to have been separated. This valuable specimen has been secured for the Peabody Museum of Yale College, and will be more fully described by Professor Marsh upon his return. He proposes for it the name of *Hesperornis regalis.*

A New Method of Nickel-Plating.—Dr. Wolcott Gibbs gives, in the January number of the *American Journal of Science*, a brief description of a new process for plating various metals with nickel without the use of a battery, which process was devised by Prof. Stolba. Into the plating vessel—which may be of porcelain, though the author prefers copper—is placed a concentrated solution of zinc chloride, which is then diluted with from one to two volumes of water, and heated to boiling. (If any precipitate separates, it is to be redissolved by adding a few drops of hydrochloric acid.) As much powdered zinc as can be taken on the point of a knife is thrown in, by which the vessel becomes covered interiorly with a coating of zinc. The nickel salt—for which purpose either the chloride or sulphate may be used—is then added until the liquid is distinctly green, and the articles to be plated, previously thoroughly cleaned, are introduced, together with some zinc-fragments. The boiling is continued for 15 minutes, when the coating of nickel is completed, and the process is finished. The articles are well washed with water and cleaned with chalk. If a thicker coating be desired, the operation may be repeated. Professor Stolba found that copper vessels thus plated, were scarcely tarnished after several months use in the laboratory.

Magnetic Disturbances a Result of Solar Eruptions.—Professor C. A. Young, of Dartmouth College, described in the *Boston Journal of Chemistry* for November, a remarkable explosion which he had observed upon the surface of the sun, by which a protuberance was blown to fragments, some of these rising to a height of more than 200,000 miles above the luminous solar body. Such a disturbance as this on the sun could hardly be without effect upon terrestrial phenomena. The brilliant aurora of the same evening (Sept. 7th) may have been, as Professor Young suggests, "the earth's response" to this solar demonstration. Upon writing to Professor Airy, the English Astronomer Royal, to ascertain whether there were marked magnetic irregularities coincident with this outburst, he received a courteous reply, enclosing tracings from the photographic record-curves of the declinometer, and of the horizontal and vertical force magnetometers of the Greenwich observatory. This reply is given in the December number of the above *Journal*, together with a cut of the tracings. Prof. Airy says: "it does not appear that any remarkable movement coincided with the beginning of your observation. There was a sudden movement nearly at the end." A considerable magnetic

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storm began, however, about two hours and a half after the "explosion" and developed into the brilliant aurora of the evening. Professor Young's conclusion is, therefore, either that considerable time is occupied in transmitting a magnetic perturbation from the sun to the earth; or else mere *mechanical* movements in the solar atmosphere are not the cause of the disturbances noticed in the action of our magnetic instruments.

Measurement of the Velocity of Cannon Balls.—A very ingenious instrument known as Noble's Chronoscope, is used for measuring the velocity of shot during its transit through the gun. The tube of the gun is fitted inside at certain intervals with metal rings, (to the number of six or eight), the outside margins of which are sharpened into knife-edges. As a shot passes along the tube and through these rings, the edges of the latter are jammed down upon, and made to cut through, the ends of various insulated wires, one of which is placed under each ring. Each of these wires is connected with an electric battery, and, as one wire after another is cut through and the insulation removed, an electric current passes, and a number of electric sparks follow one after another, according to the number of rings and wires. The recording of signals is accomplished by means of a series of metal disks, one in connection with each, which are made to revolve at a certain known velocity. The surface of the disks is of polished silver coated with lampblack. As soon as a wire is cut by the passage of a shot, a spark hops over to the recording disk, removing a little of the lampblack coating, and thus marking the place by leaving a bare minute spot of bright metal. From the relative position of the successive spots on the disks, and the known velocity at which they revolve, a simple calculation determines the velocity of the shot. A shot usually takes from one two-hundreth to one three-hundredth of a second to traverse tne whole length of the bore of a large gun, its speed being somewhat slow when passing the rings, and increasing as it approaches the muzzle of the gun. From the extreme delicacy of the instrument, the calculation can be made with precision to a millionth part of a second, and the velocity determined with the greatest accuracy.

On the Spectrum of the Aurora.—The magnificent crimson aurora of November 9th, seems have to been seen over a very wide area, not only in this country, but also in Europe, as we observe by communications on the subject to the Paris Academy of Sciences, and by notices of it in the English periodicals. Here however, it appeared brightest about 6 p.m., disappearing entirely within half an hour; but in England and France it was seen much earlier, say from 7 to 8 o'clock, which, making allowance for time, would be between two and three o'clock in the afternoon. When examined with the spectroscope it gave five well-marked lines or bands. The first of them was sharp and of a brilliant crimson color, and more refrangible than the red hydrogen and lithium lines. The second line was the brightest of the spectrum, was also sharp and well-defined, and was yellowish-green in color. The remaining three bands were nebulous on the edges, and were blue or bluish-green in color. Upon comparing the wave-lengths of these lines with those observed at various times in Europe, it appeared clear that the spectrum of different auroras was quite different. Eleven lines have been measured by various observers, in auroral spectra; but of these no one has seen more than seven at any one time. This fact gives support to the view that, assuming the aurora to be an electric discharge taking place at high altitudes, and therefore in rarefied air, its spectrum is a modified air spectrum. Moreover, since three auroral lines coincide, in all probability, with three lines observed in the spectrum of the sun's corona during an eclipse, some of these lines may owe their origin to the presence of an interstellar matter, which, owing to its rarity, accumulatesin the higher portion of the planetary and solar atmospheres. The variations in auroral spectra, therefore, may very properly be due to a difference of altitude. Hence a systematic series of observations upon auroras whose altitude can be approximately determined by the method proposed by Professor Newton, in the *Journal of Science*, taken in conjunction with their spectroscopic examination, would, no doubt, furnish results of great value to science.

B.

The Spectroscope Applied to Study the Growth of Worlds. Remarkable Changes in the Star Eta Argus.—Modern astronomy has unquestionably made its greatest advances since the application of spectrum analysis. It will be remembered that of the three or four varieties under which the spectra of the fixed stars including our sun have been grouped, less than half indicate the presence of metallic vapors such as constitute the body of that luminary, and a large proportion seem to be the light of inflamed gases such as the corona which surrounds the sun during eclipses. The circumstance that many of the nebulæ are similarly constituted has been considered in this connection. We have now, at last the definite link which connects the fixed stars with the nebulæ. The information is communicated from southern latitudes, being the result of observations on the great nebulæ in Argo, itself, perhaps, a center of stellar aggregation, as its position seems to be almost a focal point of the splendors of the southern sky. In the heart of this nebulæ lies Eta Argûs, hitherto chiefly noted as a variable star of long period. Halley described it as a star of the fourth magnitute; Lacaille subsequently observed it as of the second magnitude. Sir John Herschel went to the Cape of Good Hope in 1833, and writes respecting this star in 1835. It was then approaching its climax, and is represented nearly, if not quite, of the first magnitude. With irregular variations in appearance, its brilliancy gradually increased until 1843, when none of the fixed stars surpassed it in splendor. Since then it steadily decreased, until it became almost invisible to the naked eye, and was described as of the sixth magnitude. It is now again increasing. But the nebulæ immediately surrounding it undergo precisely converse changes; when the star is most brilliant the nebulæ near it is dim to the point of invisibility; when the star is faintest, the nebulæ attains its utmost brightness. The spectroscope recently applied to the now growing star, shows conclusively that it is surrounded with blazing hydrogen; other gases also giving evidence of their presence. In short, it is a star in flames. Should the identity of nebulæ and the solar corona be established by these observations on Eta Argûs, the discovery may mark a new era in astronomy, and substitute positive knowledge for hypothesis as to the growth and decadence of worlds.

Is the Interior of the Earth Solid or Liquid.—Although the doctrine that the earth is a molten sphere, surrounded by a thin crust of solid matter, was once almost universally taught by geologists, there have of late years been brought forward several arguments to the contrary, which apparently, are more in favor of its being a solid, or nearly solid mass throughout; and these arguments are fully entitled to our consideration, as our object is not to defend any particular theory but to arrive, as nearly as we can, at the truth. I will, therefore, in the first place, proceed to scrutinize all which has been brought forward in opposition to the older hypothesis and then to consider whether any other explanation yet advanced is more in accordance with the facts of the case.

First of all we are to answer the question as to whether it is possible for such a thin crust to remain solid, and not at once to become melted up and absorbed into the greater mass of molten matter beneath it? This latter would doubtless be the case, if the fluid mass had any means of keeping up its high temperature, independently of the amount of heat it actually possessed when it originally assumed the form of an igneous globe. The question, however, in reality answers itself in the negative, since it is evident that no crust could even commence to form on the surface unless the sphere itself was at the moment actually giving off more heat from its outer surface to the surrounding atmosphere than it could supply from its more central parts in order to keep the whole in a perfectly fluid condition; so that, when once such a crust, however thin, had formed upon the surface, it is self evident that it could not again become melted or reäbsorbed into the fluid mass below.

The external process of solidification due to the refrigeration, would then continue going on from the outside inward, until a thickness of crust had been attained sufficient to arrest, or neutralize (owing to its bad conductibility of heat) both the cooling action of the surrounding air and the loss of more heat from the molten mass within; and thus a stage would soon be arrived at when both these actions would so counterbalance one another, that the further cooling down of the earth could be all but arrested; a condition ruling at the present time, since the earth-surface, at this moment, so far from receiving any, or more than a minute amount of heat from the interior, appears to depend entirely, as regards its temperature, upon the heat which it receives from the sun's rays.

We have next to consider the argument that if the earth's exterior were in reality only such a thin covering or crust, like the shell of an egg to which it has often been likened, that such a thickness would be altogether insufficient to give to it that stability which we know it to possess, and that consequently it could never sustain the enormous weight of its mountain ranges, such as, for example, the Himalayas of Asia, or the Andes of America, which are as it were, masses of rock piled up high above its mean surface level.

At first sight this style of reasoning not only appears plausible, but even seems to threaten to upset the entire hypothesis altogether. It requires but little sober consideration, however, to prove that it is rather, so to speak, sensational in character than actually founded on the facts of the case; for it is only requisite for us to be able to form in our minds some tangible idea of the relative proportion which the size of even the highest mountain bears to that of the entire globe itself, to convince us, if such a crust could once form and support itself, that it could with ease support the weight of the mountain also.

The great Himalayan chain of mountains rises to a maximum altitude of 31,800 feet, or six miles above the level of the sea; and if the earth could be seen reduced in scale down to the size of an orange, to all intents and purposes it would look like an almost smooth ball, since even the highest mountains and deepest vallays upon its surface would present to the eye no greater inequalities in outline than the little pimples and hollows on the outside of the skin of an ordinary orange. If this thin crust of the earth can support itself, it is not at all likely to be crushed in by the, comparatively speaking, insignificant weight of our greatest mountain chains; for, in point of fact, it would be quite as unreasonable to maintain such a disposition, as to declare that the shell of a hen's egg would be crushed in by simply laying a piece of a similar egg-shell upon its outside.

That a very thin spheroidal crust, or shell, enclosing a body of liquid matter, such as an ordinary fowl's egg, does possess in itself an enormous degree of stability and power to resist pressure from without, is easily demonstrated by merely loading a small portion of its surface with weights as long as it does not give way under them. Even when placed on its side (or weakest position) it is found that a portion of the shell, only one quarter of an inch square, will sustain several pounds weight without showing any symptoms of either cracking or crushing; or, in other words, this simple experiment indicates that if the external crust of the earth were but as thick and strong in proportion as an egg-shell, it would be fully capable of sustaining masses, equal in volume and weight to many Himalayas, piled up one atop another, without any danger whatever to its stability.—*Extract from a Lecture by David Forbes, F. R. S.*

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, JAN. 13, 1872.

THE article on post-graduate studies at Yale which we print elsewhere is a concise, clear, and candid statement of what may be done at Yale in the way of further study after graduation from the regular curriculum of Academic studies. As will be seen twenty-three professors and their specialties are mentioned and it would seem that within this range the desires of almost any one, for knowledge in almost any direction, might be gratified. It is true they do not embrace the whole circle of human thought, but we hail the appearance of these courses as a bright omen that Yale is not far distant from a true university, and that ere long advantages for acquiring knowledge will be furnished in this country approximating toward, if they do not equal those beyond the sea.

AT the recent meeting for the election of officers for the New York Historical Society, Dr. Thomas DeWitt, who has been connected with the society for thirty-four years, and its president for thirty-two, declined reëlection. Resolutions expressive of the warm feelings of the society toward Mr. DeWitt were passed, and were responded to by the retiring president. The paper of the evening, read by Mr. Duyckinck, was an elegant memorial of H. T. Tuckerman. The society during the year has succeeded well financially, and has added largely to its library and very largely to its art collection. The following are the officers for the ensuing year: President, Augustus Schell; First Vice-President, Erastus C. Benedict, LL.D.; Second Vice-President, James W. Beekman; Foreign Corresponding Secretary, Wm. Cullen Bryant, LL.D.; Domestic Corresponding Secretary, Wm. J. Hoppin; Recording Secretary, Andrew Warner; Treasurer, Benjamin H. Field; Librarian, George H. Moore, LL.D.

PERHAPS nothing shows more clearly the completeness of the recent change in the sentiments, and almost entire overthrow of the traditions of the Japanese, than the fact that they are sending to America for text books written in the English language to be used in schools of Japanese students on Japanese soil. That this is the case and also that education is making progress in that country may be seen by the following extract from a highly complimentary private letter to the publishers of Barker's Chemistry, from the professor of chemistry at Fukuwi, Japan. The letter is dated Nov. 1 1871, and says. "I can safely recommend it (Prof. Barker's Chemistry) to my pupils when they shall be able to read a scientific work in English. * * * I shall order through my bookseller, several copies for my advanced students; and I hope the others will be able to read it by March of 1872. I have about 160 students in chemistry who study English also. About fifty more hear lectures on chemistry, learning only the symbols, names of the elements, and a few necessary English scientific words. There are two very good interpreters and teachers of English here; and about 500 scholars in the Chinese and Japanese departments, beside those in the scientific and English department. I should be glad to see the book introduced into the Yedo University."

DR. Cyrus Hamlin, President of Robert College, near Constantinople, some extracts from whose recent address in New York appear in another column, is now in this country, engaged in the noble work of trying to raise funds for that institution. The extract which we print gives a little insight into the workings of the college, and a statement of what it is proposed to do. The enterprise, as it seems to us, is worthy of the candid and thoughtful consideration of every one interested in the elevation of the human race. This college, founded on the banks of the Bosphorus, is endeavoring to overcome the effete civilization of that region, and infuse into the races who occupy the vast territory of which the college may be called the center, the vigor and life and earnestness and Christianity of our own more highly-favored race. The testimony of those who are on the ground is that the people are worthy of the effort. Their civilization and institutions are decayed and nerveless, but the people are not. They are vigorous and manly, and are reaching out after our civilization with an earnest grasp. It remains for the people of this country to decide, in a measure, whether they shall be disappointed.

Dr. Hamlin spent Wednesday in New Haven, visiting the various departments of Yale College, looking especially at the new buildings, the new apparatus, the gymnasium, the Scientific School, &c. In the evening he addressed a small company of gentlemen, privately assembled, in reference to his work. He is to be here again a few days hence, and from all that we know of his work and of his lively method of telling about it, we are sure that he would interest the students if arrangements could be made for him to give a lecture before them. Since writing the above, we understand that President Porter intends to invite him to make such an address.

PRINCIPAL DAWSON'S LECTURE.

The course of Scientific Lectures in New Haven, under the direction of the Yale Scientific Club, had a most auspicious commencement on Friday last in the delivery, by Dr. Dawson of Montreal, of a lecture on the "Primeval Flora."

The lecturer, was introduced by Prest. Porter and began by briefly describing the plants which in general characterized the various geological ages. He said that the true exogenous and endogenous plants of our forests to-day were but faintly foreshadowed in the Palæozoic Age, while in that portion of this age characterized as the Carboniferous Period gymnosperms and acrogens, which have but few and insignificant representatives in our forests now, held undisputed sway. On the other hand, algae which are well represented to-day appear in ages preceeding even the Palæozoic. Taking the Carboniferous as a typical period, the great forests with their damp soil, moist, oppressive air and grotesque trees were described and illustrated by drawings. In these forests the Sigillaria, with its pillar-like, fluted trunks covered with curious and regular leaf-scars; with its hard compact bark, cellular pith and singular bifurcating roots; formed by the growth of successive generations, the greater part of the coal accumulations. Sometimes, he affirmed, whole forests of these enormous trees sank and were covered by deposits of sand, and thus we often have the very tree trunks, standing upright in the strata. Around the forests of Sigillaria vast brakes of Calamites, allied to modern Mare's-tails or Equisetums, grew in great luxuriance, and in times of inundation kept the coal deposits free from earthy matter which would have rendered them too impure for use. The graceful Lepidodendra, represented by the little Princess Pine of the present grew to the size of an elm or oak, and attained their acme in this period, contributing largely to the formation of coal. Among the tree-ferns which flourished in the open forests were forms almost identical with those of the modern tropics. Gigantic pines seem to have grown on the uplands, but contributed little to coal making. Owing to the unity of climate, the preponderance of water, and to the fact that the lower forms are less sensitive to external influences, the Flora of this period presented little variety in different parts of the world. The air, loaded with vapor and rich in carbonic acid, accumulated the heat of the sun near the surface and produced a close, stifling atmosphere most favorable to the growth of these strange trees.

The lecturer then noticed some of the Floras which preceded that of the coal period and from the considerable deposits of graphite which occur below the coal formations inferred the existence of coal producing plants as early as the so called Azoic age. He suggested the possibility that in this earliest age vegetable life may have existed in its most complete and grandest forms, before it was brought into subordination to higher animal life. The study of fossils of land-plants older than the coal formations, is quite modern and within 20 years 180 species have been identified in the Devonian and a few in the upper Silurian. It was noticed, as an interesting fact, that to the English-speaking people belong the majority of available coal deposits.

The lecturer expressed the opinion that geologists have devoted too much time to the study of animal fossils and not enough to the study of fosil Botany. He urged the propriety of further research and close study in this direction believing that rich results and new discoveries would reward the labor thus bestowed. He closed with an eloquent allusion to the story which a simple piece of coal had to tell, affirming, that, as a relic of those wonderful forests which perished thousands of years ago, it was no insignificant thing. The very hall in which he was speaking was lighted with Palæozoic sunshine, and the fires which glowed upon our hearths were the heat of ages long past, stored away by the Creator for our daily use.

COURSES OF STUDY IN UNIVERSITY TRAINING.

The mutual relation of scientific to classical courses of instruction, in university education, is a question which has been often and elaborately discussed, and which nevertheless does not yet appear to be fully settled. The plans proposed for giving both courses at the same time in educational institutions, are numerous and varied. In some colleges, those students who find it impossible to keep up with their classes in the ordinary classical course, are dropped back into a course of lower grade, which contains science and modern languages, and which is called the scientific course. In others, both courses are pursued together, the students in both taking essentially the same course, but being allowed to elect the sciences and modern languages in place of the classics. In still others, the entire course of study is optional throughout, and a student may make up a course of study pretty much as his fancy dictates. In others, again, the courses are entirely separate, the scientific being a department quite distinct from the classical, having its own buildings and means of instruction, and, to a large extent, its separate instructors. And, lastly, there is the plan of parallel courses, alike in the amount of study required and aiming to develop an equal discipline, but leading to different degrees at graduation. These methods, with their necessary local modifications, are all the plans which we remember to have noticed in any of the colleges in our country.

Every system of education, by whatsoever name it is known, must recognize the fundamental distinction between primary or disciplinary, and secondary or professional instruction. The human mind, in the first place, must be trained to think; and, so far as this training alone is concerned, it matters little how this is done, so it is done thoroughly and well. He who has the power of independent thought, who can reason out clearly his conclusions from the given premises, or can grasp a complicated question, and, solely by the power of his mental discipline, can unravel its intricate details and analyze it completely, is an educated man. He who cannot do this, is not educated in the

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truest sense, even though he have the learning of the world at his command. To discipline the mind, to develop its potential activity, therefore, is the first thing to be demanded of an educational course. To this, as it appears to us, the education of the memory, the imagination, the taste, or even the senses, is purely secondary. Inasmuch, therefore, as mental discipline is the primary object of education, that system of education is the best which best secures it. Scientific or classical study may, either of them, accomplish it; and so, also, both may fail. It is not so much what is studied as how it is studied, which decides the question. Whatever method requires a student to think, educates him: whatever method fails to do this, fails to make him an educated man.

If we judge the plans above spoken of in the light of this principle, it appears that some of them entirely fail to recognize it. A college cannot provide a second class course, for example, and hope by it, to make first class students. To make a parallel course for the lame, the halt, and the blind, and to call it a scientific course, is not only to degrade this kind of education, but is to commit a kind of self destruction. Scarcely less objectionable would seem to be the system of individual optional studies, where each student is assumed to be capable of selecting the studies which he most needs notwithstanding the fact that he never has had an opportunity of examining them; particularly, if the tendency to elect easy, and hence, in many cases, unnecessary studies, in preference to the more difficult, and, in all probability, the more essential ones, be taken into the account. The highest mental discipline must be incompatible with any of these proposed plans.

On the other hand, parallel courses of instruction, one of them classical, the other scientific, whether these be entirely separate, with different lecture and recitation-rooms, apparatus, and instructors, as in Yale, or only partially separate, using so far as practicable the same appliances, as in the new course just inaugurated at Bowdoin, — provided only that the work in both courses be done with equal thoroughness and that these courses are in all respects parallel,—would seem to be the only means which can accomplish the result with the highest success. Of course we assume here that all study may be so conducted as to be a means of discipline to the mind; and hence that the sciences as well as the classics, may effect it. The question which of them can do it best, and still more, the question what individual studies in each course, are best adapted to the end proposed, is one which we cannot now discuss. More data are necessary to its complete solution.

But in the second place, professional education is also to be provided for by our Universities. The college graduate may, in theory at least, be assumed to pass to his post-graduate course with a well disciplined mind, the most valuable gift his alma mater can bestow upon him. He may have acquired some facts, may have added to his store of knowledge, may have refined and cultivated his tastes in college, but all this, though valuable, is incidental. He enters the professional school with a mind trained to habits of thought and study, and hence competent to select the profession of his life. He is eager for the practical knowledge which shall make his life a success, whether that success be found in the laborious practice of a learned profession like those of law, theology, or medicine; or in the department of linguistic or scientific research. Such material as this is far different from that which entered the college but a short time ago as a freshman. Courses of study are adapted to the one which the other can make no use of. Here the elective system seems to find its appropriate place. A man competent to select his profession, is competent too to select the collateral studies which shall support on every side the tall shaft on which he raises himself to eminence.

Our position is, therefore, that only parallel courses of study in science and the classics, carefully marked out beforehand, and pursued with equal diligence and fidelity, can be made to secure perfectly that ideal of college education, a disciplined mind. We maintain, too, that the post-graduate course should be to a large extent elective, while at the same time it aims to train for some special profession.

LITERARY.

Messrs. J. Sabin & Sons announce as ready for delivery in a few days a new edition of the works of Henry Fielding, with an essay on his life and genius, by Thomas Murphy. The edition, which is presented in five styles of binding, and in ten volumes octavo, is said to be limited in number. The same firm announce themselves as agents for the supply of the American market with a series of works to be called "The Dramatists of the Reformation," edited by James Maidment and W. H. Logan. Six volumes will be issued annually, the first in January. The dramatic works of Sir Wm. Davenant will form the first three volumes, and the uncollected works of John Crowne the next three. It is expected to continue the series for a number of years, giving the works of Killgrew, Shedwell, Charles Johnson, Wilson, Ethrege, Ceutlivre, Wycherly, Sedley, Lacey, Congreve, Farquar, and others. The work is to be sold only by subscription.

A work which will be of interest to many scientific readers is announced under the title of the "Quarterly German Magazine." It is edited by Prof. Virchow and Prof. Holtzendorf, and is to consist of selections from the "Sammlung Gemeinverständlicher Wissenschaftlicher Vorträge," edited by the same professors, but unlike that publication, this will be printed in English. The regular annual issue commences with January 1872, but a preliminary number was issued last year. This volume has an article by Prof. Virchow, on "The Cranial Affinities of Man and the Ape"; one by A. v. Graefe, on "Light and the Visual Organs"; and one by H. W. Dove, on "The Circulation of the Waters on the Surface of the Earth."

The January number of the *New Englander* has appeared, and contains the usual number of carefully-written articles, and an unusually large number of notices of new books. Prof. J. L. Diman, of Brown University, has an article on "The Roman Element in Modern Civilization," based on Guizot's History of Civilization in Europe; Prof. Samuel Harris, D.D., of Yale Theological Seminary, contributes an article called "The Theological Department essential in a University," which is in reality his inaugural address, at his induction to the professorship which he now holds; Prof. J. S. Sewall, of Bowdoin College, gives "A Study in Chinese History"; an unknown author treats of "Herbert Spencer's Laws of the Unknowable"; and Mr. Wm. L. Kingsley, one of the editors, devotes sixty-six pages to "Recit d'une Sœur—Memoirs of a French Family." An arrangement has been made by which the *Congregational Quarterly*, heretofore published in Chicago, is with this number consolidated with the *New Englander*. The Chicago publication is represented on the editorial staff of the *New Englander* by President A. L. Chapin, of Beloit College, and Professor Samuel C. Bartlett, of the Chicago Theological Seminary, and Rev. George S. F. Savage, of Chicago, acts as western agent. The editorial staff of this standard Quarterly therefore now consists of five, instead of three, as formerly.

The Descent of Man.*—The rapidity with which Mr. Darwin's name has become a household word among all civilized nations, is remarkable. Up to the latter part of the year 1859, when he published the first edition of his "Origin of Species," although known among naturalists as a man of large and accurate acquirements in Natural History, yet to the average public he had appeared only as the author of an entertaining book, describing his voyage round the world, in her Majesty's Steamer Beagle; a book which had attracted no special attention beyond the circle of those particularly interested in the subjects of which it treated. Now, however, it would be hard to find a person of average intelligence in any civilized community who does not know, not only that such a man exists, but also that he is the author of a theory of development. This rapid popularity appears to be due to two causes, both of them outgrowths of the book above mentioned. In the first place, the theory of development which it contains, called by the author, "Natural Selection," is at once so novel, so ingenious, and so well-sustained by the facts urged in its support, that it demanded and received the immediate attention of naturalists, the world over. In evidence of this, it may be stated that five thousand copies of the "Origin of Species" were exhausted within nine months after its publication. But the second and the main reason why Mr. Darwin has become so extensively known, is the fact that early in the discussion of the theory of Natural Selection, it became evident that it was simply another attempt to account for the origin of the present forms of life by natural laws alone; and, therefore, to place the connection between the Creator and His works more remote. Inasmuch as the church, in her teachings, had undertaken, and very unwisely, too, it must be admitted, to propound a theory of her own upon this subject, and to say that species came into existence, not by being evolved from previous species, but by being spoken into being by the Almighty fiat, there soon arose a fierce opposition to Natural Selection, not because it was, in itself, true or false; for this its opponents, most of them, were incapable of determining. The opposition arose simply because another view of God's method in nature had arisen; a view, having far more authority in nature, and quite as much in revelation as the one by which it was now attacked. And so the war went on. Neglecting to discriminate between the truths truly such, of which the church was the depository, and those accretions which human invention alone had added, both were held alike sacred, and he who ventured to differ from the latter was attacked as if he had denied the former. Both sides grew warm in the controversy; each side misrepresented the other. Mr. Darwin is an infidel, an atheist, seeking to undermine the foundations of religious truth, cries one party; for my part, says the other, I would as soon have a monkey for my grandfather as an archbishop. The natural and necessary consequence of all this was to bring Mr. Darwin's views before every man who had a religious faith to be undermined. And hence arose the paradox that the stronger a man's personal religion, and the dearer it was to him, the more strongly did Mr. Darwin and his views stamp themselves upon his mind. An appeal to no other faculty could have awakened so general an interest in Natural Selection, either for or against it, as did this appeal to man's religious nature.

But scarcely had the heated discussion of this question begun to cool, before another arose hardly second to it in importance. Though in his "Origin of Species" Mr. Darwin nowhere carries his theory of Natural Selection to its legitimate conclusion and applies it to man, yet this was pretty soon seen to be a natural inference from it. If all lower animals are descendants of earlier and more primitive forms, then man as a zoölogical species must have been so derived. And so the original opposition was re-aroused, this time stronger than ever. It cannot be true, it shall not be received, was the cry. Man is made in the image of God, and shall we admit that his ancestors were allied to the monkeys? And so, forgetting that man's nature is animal-like, as well as Godlike, the old story of the shield was repeated, and each party maintained that the entire fabric was made of the metal which appeared on the side on which he was standing. In the midst of this confusion what does Mr. Darwin do? He has continued his researches, and by patient investigation has pre-

**The Descent of Man, and Selection in Relation to Sex.*—By Charles Darwin. M. A., F. R. S., etc. With illustrations. 2 vols., 8vo., pp., V. I., 409, and V. II., 436. New York, 1871. D. Appleton & Co.

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pared himself to apply his theory to the origin of man. Does he timidly reserve his conclusions till the storm shall be over? So far from this, it is when the controversy is at its height, when it is being pressed so actively that even Mr. Wallace, himself a co-originator of the theory, admits its inapplicability, in many respects, to man, that Mr. Darwin issues another volume, and squarely faces the question by calling it the "Descent of Man." In this book the whole matter culminates. The discussion is hereafter to be confined to the actual point at issue. Facts alone must be appealed to, and these facts alone must finally decide the case, however unpleasant the possible, not to say the probable, conclusions. In this controversy, henceforth, men must read Darwin before they denounce him; they must know his arguments, and they must bring against them arguments which are equally sound.

What now is this new extension of Natural Selection? By what chain of reasoning does Mr. Darwin seek to prove the descent of man from some less highly-organized form? Mainly, we reply, from the fact that the embryonic development of man is closely similar to that of the lower animals; that he resembles them in innumerable points of structure and constitution, both of high and of the most trifling importance; that he retains rudiments of organs possessed by them; and that he occasionally suffers abnormal reversions to a more or less distinctly marked animal type. "He who is not content to look," says Mr. Darwin, "like a savage, at the phenomena of Nature as disconnected, cannot any longer believe that man is the work of a separate act of creation." But the anatomical argument is the most readily conceded. It is the "high standard of intellectual power and of moral disposition" to which man has attained, which it taxes natural selection most to account for. Mr. Darwin however, attacks the question manfully in the second and third chapters of his book. He shows in the first place, that "there is no fundamental difference between man and the higher mammals in their mental faculties; illustrating it at some length and treating not only of the imagination and reason, but also of language, power of abstraction, and the sense of beauty. Then he passes to the moral sense, and says: "The following proposition seems to me in a high degree probable—namely, that any animal whatever, endowed with well-marked social instincts, would inevitably acquire a moral sense or conscience, as soon as its intellectual powers had become as well developed, or nearly as well developed, as in man." "A moral being," he says "is one who is capable of comparing his past and future actions or motives, and of approving or disapproving of them." He maintains that the moral sense flows from the enduring and always present nature of the social instinct, in the first place; and in the second, from the activity of the mental faculties, and the consequent vividness of the impressions of past events. "Owing to this condition of mind, man cannot avoid looking backward and comparing the impressions of past events and actions. He also continually looks forward. Hence, after some temporary desire or passion has mastered his social instincts, he will reflect and compare the now weakened impressions of such past impulses with the ever present social instinct; and he will then feel that sense of dissatisfaction which all unsatisfied instincts leave behind them. Consequently he resolves to act differently for the future—and this is conscience." As to the argument that man's innate belief in God separates him from the lower animals, Mr. Darwin denies the existence of any such innate or instinctive belief, and asserts that "numerous races have existed and still exist, who have no idea of one or more gods and who have no words in their languages to express such an idea." Hence, he says, "the idea of a universal and beneficent Creator of the universe does not seem to arise in the mind of man until he has been elevated by long continued culture."

Before deciding, however, the question of man's origin, Mr. Darwin thinks it important to discuss another cause which may have an undoubted bearing upon it. This cause is sexual selection, a form of selection which is only alluded to in the "Origin of Species," but which occupies three-fourths of the "Descent of Man." Sexual selection, as its name implies, depends "on the success of certain individuals over others of the same sex in relation to the propagation of the species;" the healthiest and strongest, or the most beautiful males, for example driving away or distancing the weaker or homelier ones; which last leave no offspring, the first only being perpetuated. Taken in connection with the law of inheritance, Mr. Darwin draws from it some very important conclusions, which we have no space to dilate upon here. We must content ourselves with quoting his closing words: "For my own part, I conclude that of all the causes which have led to the differences in external appearance between the races of man, and to a certain extent, between man and the lower animals, sexual selection has been by far the most efficient."

From this complete and carefully prepared argument, we learn "that man is descended from a hairy quadruped, furnished with a tail and pointed ears, probably arboreal in its habits and an inhabitant of the Old World. This creature, if its whole structure had been examined by a naturalist, would have been classed among the Quadrumana, as surely as would the common and still more ancient progenitor of the Old and New World monkeys. The Quadrumana and the higher mammals are probably derived from an ancient marsupial animal, and this through a long line of diversified forms, either from some reptile-like or some amphibian-like creature, and this again from some fish-like animal. In the dim obscurity of the past, we can see that the early progenitor of all the Vertebrata must have been an aquatic animal provided with branchiæ, with the two sexes united in the same individual, and with the two most important organs of the body (such as the brain and heart) imperfectly developed. This animal seems to have been more like the larvæ of our existing marine Ascidians than any other known form." And unless Mr. Darwin's facts can be disproved and his arguments, cautiously and candidly founded on them, be overthrown, we see not why the above conclusion must not stand in science.

One word concerning Mr. Darwin himself. Unfortunately his opponents have not always been careful to confine their attacks to his writings, meeting argument with argument, and fact with fact. They have descended in many cases to personal villification, and have impugned his motives and traduced his private character. They seem not to see that this is the plainest confession of weakness on their part, which indeed it really is. But here too, the facts are against them. Mr. Darwin is a man of irreproachable private character. Truth, and that too, for its own sake, is as precious to him as a man, as it is invaluable to him as an accurate naturalist. The singular and even exceptionable candor everywhere displayed in his writings is markedly in contrast with the disingenuousness shown by many of the most prominent of his accusers. As an example of these falsehoods, take the assertion so often made that Mr. Darwin is a disbeliever in a personal God. And in answer to it, notice that in quoting the Duke of Argyll's remark that "mere variety must be admitted to be an object and aim in Nature," Mr. Darwin says: "I wish the Duke had explained what he here means by Nature. Is it meant that the Creator of the Universe ordained diversified results for His own satisfaction, or for that of man? The former notion seems to me to be as much wanting in due reverence, as the latter in probability." In another place, Mr. Darwin speaks of "the ennobling belief in the existence of an Omnipotent God."

We have not chosen, even had we been competent, to discuss the truth of the theory of natural or sexual selection, even as applied to Man. That is being done by the ablest naturalists in all countries. Their general conclusion, they tell us, is, that while these great causes are undoubtedly operative in nature, and while they may be conceded even to have produced some species, yet that there are many other laws also in operation to the same end. The general agreement is with Mr. Darwin as to the fact; the difference is only concerning the extent to which it is active.

THE METEOROLOGY OF DECEMBER, 1871.

The mean temperature of the month of December at New Haven was 26.5 degrees, which is 3.8 degrees below the average temperature of this month. The highest temperature of the month was 50.9 degrees on the 24th; the lowest was 4.2 degrees below zero on the 22nd. The range of the thermometer for this month was 55.1 degrees, which is somewhat more than the usual range. The low temperature on the 22nd was remarkable, only thirteen cases of equal severity having occurred in a period of ninety-four years. We have now had two successive months remarkable for their low temperature; but the month of October was unusually mild, so that the mean temperature of the past three months has been only 1.6 degrees below the average temperature of these months for the past ninety-four years.

The amount of rain and melted snow for the past month was three inches, which is a little less than the average fall. The amount of rain for the year 1871, was 46.76 inches, which is two inches more than the average fall.

E. L.

Yale College, Jan. 4. 1872.

ALUMNI REUNIONS.

WILLIAMS ALUMNI IN BOSTON.

The Annual reunion and dinner of the Williams alumni resident in Boston and vicinity was held at the Parker House on Monday evening Jan. 9. About fifty gentlemen were present, including Dr. Mark Hopkins, president of the college; Ex-Governor, Emory Washburn; Hon. John Wells, and Hon. James D. Colt, judges of the Massachusetts Supreme Court; Judge F. H. Dewey of the Superior Court; Lieut. Gov. Tucker; Hon. Oliver Warner; Hon. Joseph White, Hon. Rufus Woods and a number of more or less prominent clergymen, lawyers, etc,. Previous to the dinner a business meeting was held at which the following officers were elected: President, Judge Wells; vice-president, Charles Stoddard; secretary, H. Buir Crandall; executive committee, George F. Brigham, Samuel Burnham, James White, Lyman Beecher, Daniel Dewey. After the viands had been disposed of President Hopkins made quite a long speech, in the course of which he spoke of the recent comparative financial prosperity of the college, of its increase in numbers till the war, its diminution then, which still continues, and the causes of it—all which indicated the necessity of increased efforts by its friends, and perhaps some modification of their former methods. Yet viewing the past efforts and successes of the college, its manifest fitness to supply the same want of the past which must exist in the future, he felt confidence that present needs would be met, and that future secured.

Speeches were also made by Ex-Gov. Washburn, Hon. Marshall P. Wilder, Judge James D. Colt, Judge Dewey, Lieutenant Governor Tucker, Hon. O. Warner, Hon. Joseph White, Hon. Rufus Woods, Hon. H. B. Knight, S. Burnham, Professor Wright, of the college, Rev. Mr. Hyde and Mr. Scudder. Letters were read from Hon. Henry L. Dawes, Hon. Mr. Benedict, of the New York Senate; and Rev. Richard S. Storrs, of Braintree, regretting their inability to be present. The festivities did not cease until nearly midnight.

BOWDOIN ALUMNI IN NEW YORK.

The second annual dinner of the Alumni of Bowdoin College was given at Delmonico's, at Fifth-ave., and Fourteenth-st., Tuesday evening Jan. 9. The following officers of the association were elected for the ensuing

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year: President, the Rev. Dr. George L. Prentiss; secretary, Granville P. Hawes; treasurer, A. F. Liddy. Five vice-presidents and an executive committee were also elected. Prof. Hitchcock, President Allen, of Girard College, and Prof. Johnston were present. Letters of regret were read from H. W. Longfellow, Dr. Samuel Harris, J. S. C. Abbott, and others.

COLLEGE RECORD.

Lafayette College (Easton, Penn.)—The middle term at Lafayette College commenced on Thursday of last week, with an unusual accession of new students. The excitement upon the appearance of the small pox in Easton, near the close of last term, seems to have subsided as quickly as it arose, most of the students who left having returned before the end of the session. The foundations for the new chapel are completed, and the new building for the Technical courses having been placed under contract, will be commenced in the spring. This will cost $200,000, and is the munificent gift of A. Pardee, Esq., of Hazleton, Pennsylvania.

Franklin College (Franklin, Ind).—This institution has a present productive endowment which amounts to $28,515, of which $27,030 bear interest at six per cent, and $1,485 at ten per cent. Added to this are non-interest-bearing notes and property belonging to the endowment amounting to $3,450 more. There is a debt against the institution of $11,555, of which $7,000 draws interest at seven per cent, and the remainder at ten. The current annual expenses of the institution are set down at $7,760, while the receipts reach only $4,700, thus leaving over $3,000 to be either provided for or added to the debt. A strong effort is to be made to raise the endowment to $75,000 by next June, and the Board of Trustees have adopted a resolution that unless this is done "it will be their duty to dismiss the students and suspend all operations in the college." The property of the institution, in grounds and buildings, is valued at $35,000.

University of the City of New York.—(New York City.)—Chancellor Crosby is infusing new life into this institution. More students entered last fall than have been seen at the examination for admission for a number of years previous. A course of free lectures has been established to be given on Thursday evenings throughout the winter, in the University chapel, by members of the faculty. The introductory lecture was given Dec, 7, by Dr. John W. Draper, on "Spectrum Analysis." The following are still to be given: Jan. 18, Prof. Henry Draper, M.D., on "Respiration;" Feb. 1, Prof. George W. Coakley, LL.D., on "Comets;" Feb. 8, Prof. E. H. Gillett, D.D., on "The Future of Society" Feb. 15, Prof. Henry M. Baird, Ph.D., on "Homer and his English Translators;" Feb. 29, Prof. Charles Carroll, A.M., on "Robert Browning;" Mar. 7, Prof. E. A. Johnson, LL.D., on "The Industries of the Romans;" Mar. 14, Prof. F. D. Weisse, M.D., on "Sensation and Thought" (Illustrated); March 21, Prof. John J. Stevenson, Ph.D., on "American Geology;" Mar. 28, Prof. T. Addison Richards, N.A., on "The History and Criticism of Art;" Apr. 4, Whitelaw Reid, Esq., on "Journalism."

Wabash College. (Crawfordsville, Ind.)—The physical culture of this institution is under the charge of the Chair of Military Science, and for the purposes of this culture a building has been erected which is more comprehensive than is usual in gymnasiums, and is quite unique in some particulars. Work was commenced last August, and in fifty days the roof was receiving the slate. The building presents the form of a cross, of equal members, and the ground surface of seven thousand five hundred feet, is thus divided: A marching and running course, of three hundred feet, twelve feet wide, and seventeen feet high; a gymnasium sixty feet by twenty-six, and twenty-four feet high, ventilated and lighted by a central tower fifty feet in height; an armory and gun-room, for care of small arms and artillery; and a room for fencing, boxing, quoits and other manly exercises. In the four transepts, above, are topographical room, model room; reading room, for maps, charts, etc., and bath rooms. All these, through interior glass fronts, furnish a full view of the Exercise Hall, within and below. The small arms used, are the "light, cadet, breech-loading rifle," similar to those last issued to the Military Academy at West Point, and were manufactured by the United States at the Springfield Arsenal for the use of students receiving the instruction of the Chair of Military Science.

Massachusetts Agricultural College (Amherst, Massachusetts.)—The following extract from the recent message of Gov. Wm. B. Washburn, of Massachusetts to the legislature of that state gives a well merited executive approval of this flourishing institution:

The career of our Agricultural College has been observed with no ordinary interest. The school was at first looked upon by some of the wisest and most sanguine friends of liberal education as a doubtful experiment. Several institutions of the kind organized in other States had either wholly failed or met with indifferent success, and the wisdom of undertaking to furnish scientific education to young men intending to be farmers was widely questioned. The school has justified the faith of those who favored the organization, and now it is generally admitted to be one of the most valuable institutions in the State. The course of instruction pursued there is thorough and comprehensive, and, as each student is required to perform a certain amount of out door labor every working-day, all who take the course gain a practical as well as theoretical knowledge of farming. This institution is conceded by those competent to form an opinion to be one of the best of its class in the country. That it is so, is greatly owing to the rare energy and well directed labors of its officers; who have omitted nothing of effort or sacrifice in its behalf to make it a model. It is crowded with students and prosperous to a remarkable degree, and has already become a source of just pride to the Commonwealth.

Wooster University (Wooster Ohio).—This institution was opened in the fall of 1870. The number of students, the first year was 57, and a class of six graduated at the first commencement. The number of students this year is 70, eight being in the senior class. There is no preparatory department, the academies and high schools being depended upon to furnish the preparation requisite for admission. At the close of the sophomore year, each student selects one of three courses of study. In the first course, the ancient languages are made prominent; in the second, mathematics and engineering; and in the third, modern languages. Hebrew is an optional study in the senior year. A Scientific Course has been established, which, it is intended, shall be worthy of the name. At the close of each term, all the students are subjected to a written examination on the studies of the term. The faculty now consists of the president, five professors, and two assistant professors, and one or two other professors will be elected at the close of the year. The university building is pronounced by some judges to be the best for college purposes in America. The building and grounds cost about $150,000. The library now contains 1500 well selected volumes, the second installment of Mr. Bragg's donation of $5,000 worth of books having just been received. The sum of $5,000 has been expended in the purchase of philosophical and chemical apparatus. The endowment fund, now secured, amounts to $260,000, and efforts will be made largely to increase it.

Yale College (New Haven, Conn.)—The news of the week at Yale is of considerable interest, as some action has been taken in reference to the question of how the Alumni should make known their desires in the matter of alumni representation. The following account shows what has been done:

HOW THE ALUMNI MAY VOTE.

At a meeting of the Corporation of the College held last July a committee was appointed to consider and report to that body whether any changes were desirable in the recent amendment to the charter of the college, in reference to admitting the graduates to a voice in its government, and also what measures were necessary to carry out the provisions of this amendment. The committee is as follows: Rev. Dr. Noah Porter, President of the College; Rev. Drs. Woolsey and Bacon; Hon. John P. Putnam, Rev. Dr. J. P. Thompson, Henry B. Harrison, Esq,, Henry C. Robinson, Esq., F. E. Kernochan, Esq., and M. Dwight Collier, Esq. This committee held a meeting on Tuesday, Jan. 9, and agreed to submit to the corporation several, chiefly verbal, amendment to the act of the legislature, and the following scheme for carrying out the provisions of that act.

1. Every graduate qualified to vote at the election of Fellows, should be invited by advertisment in the public newspapers, to send in to the secretary of the college before the first day of May 1872, the names of six graduates whom he desires to nominate for the office of Fellow; and, that a list of all such names, nominated by more than twenty-five graduates should be furnished by mail, so far as possible, to all graduates, so qualified as aforesaid, before the time of such election, together with a suitable blank form for their votes.

2. That votes may be cast by qualified graduates, either in person or by proxy; and that all proxy votes must be presented by a qualified graduate in person, authorized by power of attorney, designating the candidates to be voted for, and giving the name and class of the voter and of the attorney.

THE JOHN A. PORTER PRIZE.

It will be remembered that some time ago an offer was made by the Kingsley Trust Association, better known as the Scroll and Key Society, of $250 to constitute a prize, to be called the "John A. Porter Prize" in memory of the late Prof. John A. Porter and to be awarded for an English essay. This association have recently made known the regulations under which the prize will be given, which are as follows:

1. The prize may be competed for by any member of any department of the University, pursuing a regular course for a degree, and who shall have been a member of the University for at least one academic year, prior to the time when the prize shall be awarded.

2. The prize shall be awarded by three judges, two to be appointed by the President of the College, and one by the Trustees of the Kingsley Trust Association; such judges to be chosen or appointed on or before the first day of the second Academic term. The award of the prize shall be announced on Commencement day.

3. Subjects shall be chosen and the length and character of the essays may be specified by the Trustees of the Association, The subjects shall be publicly announced on or before the first day of the second Academic term, of the present collegiate year, and hereafter, within the first two weeks of the first Academic term.

4. If, in any year, in the opinion of the judges none of the competing essays be of sufficient excellence, the prize shall not be awarded.

5. Competing essays shall be transmitted to the judges within one week after the opening of the Academic term, under cover, signed by a ficitious name, and accompanied by the real name of the writer in a sealed enclosure.

6. The Trustees reserve the right to retain all competing manuscripts and the right of publication of the same. Each essay must therefore be accompanied by an assignment of the right of copyright. Successful essays will be annually published by the Association.

7. These terms and conditions may, at any time, be altered by the Trustees of the Association with the consent of the President and Fellows of the college.

These regulations have not yet been accepted by the Corporation, but the subject for the first essay has been announced as follows: "The Morality of the Greeks as Shown in their Art, Literature, and Life."

MISCELLANEOUS MATTERS.

The introductory lecture of Prof. Eaton on the History of Greek Sculpture was given on Monday evening last in the south gallery of the Yale School of the Fine Arts. The reception at President Porter's kept away some of those who mean to attend the course, but there were thirty or forty ladies and gentlemen present, including Ex-Pres. Woolsey, Prof. Hadley and several others of the faculty. The lecture was clear, sensible, well written, and short. Future lectures are to be delivered

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on Mondays and illustrated by illuminated views thrown upon the screen. We hope to print the introductory lecture in full next week.

The seniors who took rank as high as first Dispute at Junior Exhibition are to write for Commencement upon subjects selected by themselves. Others who think they will attain that rank by Commencement may write if they choose. All who do not write for Commencement must hand in a composition on a day appointed on one of the following subjects: *First Division*—1. Shakespeare's Fidelity to the Truth of History. 2. Race and Language as affecting Religion. 3. How high may the Lowest Class of Society be raised, consistently with the General Good? *Second Division*—1. The Historical Value and Correctness of Walter Scott's Fiction. 2. The Financial Condition of this Country since the War, and the Reasons why we have escaped a Crisis like that of 1837. 3. Popularity as a Test of Excellence in Literature.

The following subjects have been annonnced for the Junior Exhibition in its new form, which will be held April 2, in the chapel: 1. The Democratic Spirit of the Present Age. 2. The Statesmanship of Cardinal Richelieu. 3. The Last Decade. 4. Plato and Aristotle. 5. Russia and England in the East. 6. Pacific Coast Literature. 7. The International Society. 8. The Spanish Rule in Cuba.

The Junior Promenade Concert is announced to take place February 9. The committee who are to have charge of the affair are: A. Collins, chairman, F. W. Adee, S. L. Boyce, C. R. Grubb, F. W. Howard, C. P. Latting, C. Lehmer. S. Merritt,and F. S. Wickes. Historians have also been chosen in this class as follows: E. E. Gaylord, F. J. Shepard, J. H. Van Buren. H. W. Lyman was also elected but declined.

The first of the sermons before the Berkeley Association of the college was delivered Sunday evening, Jan. 7, at Trinity Church, by Bishop Clark. The bishop was laboring under a severe cold, but delivered an able discourse from the text, "Thou hast the dew of thy youth." He addressed his remarks principally to young men. The second sermon is to be delivered next Sunday evening, by Rev. Philips Brooks, of Boston.

The treasurer's report of the Boat Club, from April to July, 1871, has been published, from which we learn that the cost of the Saltonstall Races, last spring, was $365.75, and the receipts $308.18; and that the Regatta Ball cost $1084.75, and brought in $820.75; and also that the total present indebtedness of the club is $475.00. A committee has been appointed to arrange for the Summer Regatta, consisting of L. G. Parsons, W. C. Beecher, W. F. McCook, R. W. Davenport, J. H. Hincks, D. J. H. Willcox.

Prof. Packard has gone to Aiken, S. C., to spend the winter. Prof. Coe is reading the "Les Femmes Savantes" of Molière with the Sophomores on Wednesday evenings.

The reunion of the Yale alumni in Boston and vicinity is to be held on Monday evening, Jan. 29, and the Philadelphia alumni meet on Thursday evening, Feb. 1.

YALE PERSONALS.

'28, BARNARD.—Prof. F. A. P. Barnard read a paper on the evening of January 3, before the New York Society of Practical Engineering, at the Cooper Union, on "High Speed in Steam Engines."

'37, EVARTS.—W. M. Evarts, was reëlected president of the bar association of New York city, at its recent meeting, last Wednesday.

'39, TARBOX.—Rev. Increase N. Tarbox delivered the first lecture of the Union Course in Boston, under the auspices of the Boston Improvement Society, Thursday evening, Jan. 4. His subject was "Moonshine."

'45, CARRINGTON.—Henry B. Carrington, now Professor of Military Science in Wabash College, Crawfordsville, Ind., has an article in the current number of the *Wabash Magazine* on the Polytechnic Gymnasium of that college.

'50, BACON.—Rev. Leonard W. Bacon has resigned the pastorate of the First Congregational Church in Baltimore.

'55, ANDREWS.—Dr. Judson B. Andrews, of Utica N. Y., was married at New York Mills, Wednesday evening, December 27, 1871, to Miss Agnes, daughter of Hon. Samuel Campbell, of the latter place.

'57, SMITH.—Rev. Wilder Smith, of Milwaukee, who was tutor from 1860 to 1861, and at one time instructor in the Hopkins Grammar School, recently preached in Center Church, in this city.

'67, PORTER.—P. B. Porter is now practising medicine in New York city. His office is 63 West 48th Street.

'67, ALLEN.—C. L. Allen is now practising his profession, the law, in New York city.

'60, KNOWLTON.—Marcus P. Knowlton, Esq., has been chosen president of the Springfield (Mass.) City Council.

'60, CATLIN.—George L. Catlin, historian of the class of 1860, will be glad to receive information as to the present addresses of Fairchild, Finney, Foules and Howard, of that class. Address either Box 839, N. Y. City, or at Paterson, N. J.

'60, WADSWORTH (S. S. S.)—The following notice of the untimely death of Gen. Craig W. Wadsworth, from the Rochester *Democrat and Chronicle* of Jan. 3, will be read with interest by all his classmates and friends:—"A large number of the residents of this section of the state will regret to learn of the death of Gen. Craig W. Wadsworth, which occurred on last Monday. The deceased was the son of the late Gen. James S. Wadsworth, of Geneseo, in which place the subject of this sketch spent his early days. He entered, when quite young, the Sheffield Scientific Department of Yale College. On the breaking out of the war in 1861, he entered the army, serving on the staffs of Generals McDowell, Reynolds, Buford, and Stoneman. In 1854, at the time of his father's death, he resigned his position, holding the rank of brevet colonel of volunteers. He was then appointed by Governor Fenton, Major-General of the New York State National Guard, and acted in that capacity until the election of Governor Hoffman, when he resigned, and was succeeded by Major-Gen. Williams, of this city. He resided most of the time since in Geneseo. He was united in marriage to Miss Peters, of Philadelphia, and his widow and one child are left to mourn the loss of a loving husband and father. The deceased was thirty years of age. Of his private and public life nothing but what is praiseworthy can be said. He was highly esteemed by all who knew him, and his demise in the midst of a useful life is a source of general regret."

'70, TILNEY.—Thomas J. Tilney, winner of the De Forest gold medal, and now a student of law in New York city recently conducted his first case in New Haven. He himself was the defendent and won his case.

'71, PERRY.—We have received the catalogue and circular of "Mr. Wright's School," at Morristown, N. J., where W. W. Perry is instructor in Greek and mathematics. There are five instructors and forty-six pupils.

'71, WALES.—Jonathan Wales has recently made quite a visit to his friends in New Haven. He is still at his home in Randolph, Mass., and is engaged in the healthy and invigorating occupation of farming.

'71, BALDWIN.—Henry Baldwin entered with the new year upon a course of study at the Yale Art School. He is at present giving his attention to drawing.

'71, BLISS.—O. J. Bliss is at present engaged in the stationery business in Chicago, under the firm name of Bliss & Snow. He is also giving some attention to writing for the magazines. His father's business was burned out by the great fire, but was not seriously crippled. Bliss' present address is 618 West Washington street, Chicago, Ill.

'71, SWAN.—C. M. Swan is teaching in Hudson River Institute at Claverack, N. Y.

'71, WHEELER.—Rush B. Wheeler is teacher of Natura-Science and Mathematics in South Berkshire Institute, at New Malboro, Mass.

'71, WHITTLESEY.—Nathan H. Whittlesey is teaching in Mr. James Betts' school at Stamford, Conn. Wm. J. Betts, '70, is also teaching at the same place.

'71, WILSHIRE.—George Wilshire is the senior member of the firm of Wilshire. Dubois & Co., Commission Merchants, dealers in Flour, Bacon, Lard and Produce, No. 11, Public Landing, Cincinnati, Ohio.

'71, WOOD.—Cortland Wood commenced the study of law in Worcester, Mass., some time in September last but after studying for two weeks was prostrated with typhoid fever. He was unable to resume his studies until Dec. 1, but is now in the office of Bacon & Aldrich, Worcester, Mass. His Post Office address is box 217.

GLEANINGS.

PERSONAL.

— It is rumored that Gen. Joseph Karge is about to resign his professorship in Princeton College.

— The appointment of Dr. Bamberger in the place of the late Dr. Oppolzer as professor at the University of Vienna is confirmed.

— Rev. Enoch Pond, D.D., is to deliver a series of lectures this winter, before the students of Bangor Seminary, on the Greek Philosophers.

Rev. M. Van Rensselaer, D.D., formerly President of De Veaux College, near Niagara, has been elected President of Hobart College, Geneva, N. Y.

— Francis L. Patton of Booklyn, the successor of Dr. Spear, has been elected to the professorship in Chicago which Dr. Prentiss did not accept.

— Bishop Dupanloup has resigned his seat in the Academy of France, in consequence of the election of M. Maximilien Paul Emilie Littre as a member.

— Prof. Hitchcock of Amherst College, pronounces a big tooth, recently found in a muck swamp in Coleraine, Mass., to be the grinder of a veritable mastodon.

— Solomon Lentman, principal of the preparatory department of Gettysburg College, Pa., was recently taken ill while hearing a recitation, and died in a few hours.

— Rev. Nelson Rounds, D.D., late President of Willamette University, Oregon, has been elected Territorial Superintendent of Common Schools for Washington Teritory.

— Rev. Arthur S. Train, D.D., pastor of the Baptist church in Framingham, Mass., died on the 2d. He graduated at Brown University, became a tutor in that institution, and subsequently pastor of the Baptist church in Haverhill, and was more recently professor in the Newton theological seminary.

— Among the members of the alumni of Williams College in the editorial profession are noted the following: Rev. Dr. Prime and Dr. Stoddard, of the Observer; Rev. Dr. Field, of the Evangelist; William Cullen Bryant, of the Post; George Perry, of the Home Journal; C. P. Dewey, of the Commercial Advertiser; Governor Bross, of the Chicago Tribune; D. W. Judd of the Rural New Yorker; Mr. Scudder and Mr. Burnham, of Boston; Mr. Clark, of Troy; Mr. Fitch, of the Syracuse Standard; and Mr. Rhodes of Cleveland.

— At the last meeting of the Board of Trustees in the college of New Jersey the degree of LL.D. was conferred on Abraham Coles, M.D., of Newark, Hugh L. Hodge, M.D., of Philadelphia; that of D.D. on Rev. Caleb C. Baldwin, of China, Rev. Andrew Cameron, of Melbourne, John W. Dulles, of Philadelphia; that of Ph.D. on Professor Morton, President of Stevens Institute, Hoboken, N. J.; and that of A.M. in course on William Baylis, George A. Van Wagener, Samuel Waugh, William Scott, John C. Owens, John P. Polk.

COLLEGE.

— The pay of the professors of Iowa University is said to be $1,600 a year.

— Four ladies are studying in the Bussey Institution of Harvard University.

— There are now about 1,500 students and 40 professors in the University of Edinburg.

— Several new scholarships of $2500 each, in Williams College, will be ready for application at the close of the present collegiate year.

— It is proposed to add to the Boston theological seminary of the Methodist Church, a collegiate department, and the establishment of medical and law departments is also under consideration.

— Alleghany College at Meadville, Penn., has already received $46,000 of Judge Chamberlain's bequest and expects to receive the remainder, from $15,000 to $25,000, within the next ninety days.

— The building of the new Female College in connection with the Wisconsin State University is an imposing structure, four stories high, constructed of limestone, the central building fifty by seventy-five feet, and the wing forty by eighty-seven feet. It has accommodations for eighty students.

— A complete set of the annual reports of the Smithsonian Institution at Washington, D. C., have

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been presented to the Library of Dalhousie College, Halifax, N. S. The same college has received a thousand dollar scholarship to be known as the "Scott Scholarship" in honor of Sir Walter Scott.

— Leland University at New Orleans, for colored young men is progressing quite satisfactorily. Some eight acres of land in a growing part of the city have been acquired and the foundations are now finished. A plan of contribution, known as the ten cent plan, for obtaining money from the colored people who cannot give more, has been adopted and promises to prove successful.

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MISCELLANEOUS.

— A student at Phillips Academy at Andover, Mass., has just died from the small-pox.

— Bangor Theological Seminary receives $1,000 from the late Henry Goddard, Esq., of Portland. Me.

— A newspaper in Arabic is about to the started at Lahore. The Arab press is becoming extensive. It has organs in Egypt, Syria, Bagdad, Constantinople, Barbary, and now in India.

The late Charles Babbage, the eminent mathematician, died worth about $200,000, and bequeathed to his son Henry, for his own absolute use and disposal, his calculating machines and the machinery, tools, models, and drawings of every kind relating thereto, and all the contents and materials of his work-rooms.

— The recent invention of Mr. Rutherford of New York for obtaining photographs of the heavenly bodies is to be made use of in the great work of mapping the stars of the southern hemisphere, in which Prof. B. A. Gould is now engaged. Mr. D. S. Mack, a scientific photographer, after passing some weeks in the observatory of Mr. Rutherford has sailed for Buenos Ayres where Prof. Gould is now at work, with all the apparatus necessary for obtaining these photographs. Rich and valuable results are expected.

The Test of Superiority.—Caleb Cushing, in *The Independent*, shows that England was only conquered by the United States: "It is notable that no true English army ever surrendered itself to a foreign enemy except in the United States, but that twice in the war of the Revolution, and once in the second war, an English general capitulated on the field of battle, and surrendered his forces to the arms of the United States. There is no parallel to this series of events in all the numerous military operations of England, in Europe, Asia, and Africa, from the time of William the Norman to that of Victoria."

SOMETHING ABOUT ACCIDENT INSURANCE.

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The origin, the growth, the experience, and the present successful and beneficent practice of Accident Insurance in this country, by the only companies that have survived the ordeal through which every new system is compelled to pass, is a subject of interest to the general reader, inasmuch as every man is, to a greater or less extent, personally liable to be killed or injured by accident. The selling of accident policies or tickets, in all parts of the country, is now recognized to be as common and legitimate a branch of insurance as the insurance of houses or human lives. The only wonder is that the very class of men who need it most are the slowest to avail themselves of its benefits.

The small sum for which a policy of several thousand dollars can be secured, tends to make an accident company the special victim of sharp practice and attempted fraud. The Travelers, of Hartford, has had some lively experiences in this direction, and a history of its investigation and detection of attempted frauds upon its treasury would furnish material for a series of sensational novels. There was the gallant Capt. M. L. Bryan, of the 25th Georgia Regiment in the late C. S. A., who was burned out by Sherman in his seaward tour, and attempted to make it up out of insurance companies. He obtained $8,000 insurance, mostly in accident companies (there were plenty in '67), and then went out in his boat, upset, and disappeared. It was commonly reported and believed that Capt. B. had been accidentally drowned, and a formidable mass of documentary proof was forwarded to the companies, and payment demanded. But there were suspicious circumstances, and they said to the friends of the high-toned captain, "Bring on the body." Sure enough, it came—in good time—but not for the money. He was alive and well. The drowning was only a pretence.

Then there was the mythical John H. Sargent, insured in the Travelers for $3,000, who skated into an air hole, in a Wisconsin stream, and he too was said to be drowned. The evidence seemed so clear, that quite a deep feeling of indignation was raised against the soulless corporation that withheld the insurance money from the weeping widow. When the case finally came into court—for the company firmly resisted payment—there was a crowded court-room full of sympathy for the widow, who appeared in deepest black, and wept over the photograph of the deceased. Yet it came out, clear as noonday, that no such man was drowned, that the witness (named Allen) who swore to seeing him drown, was the scoundrel who personated Sargent, that the photograph of the deceased was the picture of one of Allen's old army comrades, and that the weeping widow was another man's wife, and the guilty accomplice of the chief villain.

Pretended drowning and mysterious disappearances are the favorite game. Quite recently, a man whom we will call Mack, insured for $2000 in the Travelers, and said to have been drowned in the St. Lawrence river, was found alive and well in a western state; and another whom we will call Jack Robinson, was insured in the same company, said to have been drowned in the same river, below Quebec, turned up safe and sound in Ireland. Another man somewhat Green, also insured in the Travelers, tried the *rôle* of perishing in the Chicago conflagration, and has been found in Wisconsin. Says he only did it for fun!

We are however digressing somewhat widely from the "origin, growth," &c., of which we began to speak. The first accident insurance company was formed in London, England, in the year 1848—nearly twenty-four years ago—and is now, we believe, in successful operation. Mr. James G. Batterson, a citizen of Hartford, Conn., has the honor of having introduced it in America. Observing the practice of selling tickets and policies of insurance against accidents, while traveling in England, he recognized the value of the principle. Returning home, he obtained a charter from the Connecticut Legislature in June, 1863, for a corporation to be called the Travelers Insurance Company. It was so named because the primary idea, at the start, was the insurance of *travelers* against the accidents incident to journeying. In 1864 the company was organized, and issued its first policy on the 1st of April, 1864, to its president, James G. Batterson.

In June of the same year an amendment to its charter was obtained, authorizing the company to transact a general accident insurance business. In 1865, the company was authorized to grant full life insurance; and its Life Department (distinct from its Accident Department) was commenced in July, 1866. In adapting the principle of accident insurance to American practice, the conditions of society, the occupations of the people, and the risks of accident, were found to differ so widely from those in England, that it was found necessary to begin at the beginning, and construct new tables of rates, new forms of classification, and new methods of transacting the business. The work of getting into practical and successful operation was equivalent to inventing and originating the business itself, and its founder is entitled to a corresponding degree of credit. Since that time, the then novel idea of insurance against accidents has become familiar as household words, and the Travelers ranks among the first-class companies of the country. Its success at the outset led to the formation of numerous other accident companies, every one of which copied the tables and the plans of the Travelers, originating nothing. These "endured for a time, and then withered away." A period of trial came, and for a time it looked as if accident insurance was to go by the board. But the Travelers met the necessities of the case with prompt and energetic action. Its capital had already been increased to $500,000, all paid up in cash. It raised its rates, revised its classifications, changed its form of policy, and, backed by ability and energy of management and its ample capital, safely weathered the storm. The Travelers now stands as the exponent of accident insurance in America, having fairly beaten the best English companies in amount of business, and established on a sound basis this new and valuable branch of underwriting. It has written 235,000 general accident policies, and disbursed to more than *fourteen thousand* men or their families, a sum equal to about seven hundred dollars per day for every secular day since the company began the business. No other company of its age in the world has disbursed so much money in direct benefits to its policy-holders.

It is a common error with the public to suppose that the accident policies of the Travelers are designed only or chiefly for *travelers*, or to cover the accidents of travel. In fact, but a small portion of the losses paid were caused by "accidents of travel." This misconception arises from the company's name. It should be generally understood that insurance is made against *general accidents* to men of all professions, trades, or occupations; its policies cover "bodily injuries, effected through *external, violent, and accidental means*," causing death within three months from the date of the injury, or immediately and wholly disabling the policy-holder from labor or business. A fixed sum, from $500 to $10,000, is guaranteed in case of fatal accident, or a pecuniary indemnity of $3 to $50 per week for total disability under a non-fatal accident, not to exceed twenty six weeks for any one accident. Exceptions are made against disease in any form or manifestation, or drunkenness, duelling, suicide, and wilful or wanton exposure to unnecessary risks. This, in substance, is general accident insurance,—a limited insurance, it is true, but quite as valuable as life insurance in proportion to its cost. There is no man who is not liable to accident, and the weekly indemnity is a benefit not obtainable under an ordinary life policy. To a man whose income stops the moment he is disabled from work, this feature is of great value. The cost of a policy insuring $5,000 against fatal accidents, or $25 per week for disabling injury by accidents, would be $25 per year to a merchant or professional man; $37.50 for a commercial traveler, builder, bookbinder, etc.; $50 for a carpenter or blacksmith; and in that proportion for a greater or less amount. The business of the Travelers is systematically managed, and its experience in insuring 235,000 men carefully noted. It has insured men of all sorts of occupation, as well as gentlemen of no specific occupation, in all parts of the country from Halifax to San Francisco, from Canada to Florida. It is in the possession of more extensive and valuable data relating to accident insurance, doubtless, than any other company in the world. Its system is not only based on the inflexible law of average as applied to accidents, but it is also able to determine, with a considerable degree of accuracy, the proportion of accidents to men of any given occupation.

The Travelers Insurance Company, in its Life Department, issues all forms of full life and endowment policies, granting the best security, at moderate cost, doing a clean cash business. Its plan is a good one, and it has written, up to Jan. 1st, 13,326 policies. In its Accident Department, 31,797 general accident policies were issued last year, for which $569,964.53 was received in premiums. Up to Jan. 1st, the company had paid 14,248 claims for death or injury by accident. The cash assets of the Travelers now amount to $1,919,891.48, it has $155 for every $100 of liability, it is managed by men of ability and experience, and is in every way entitled to public confidence.

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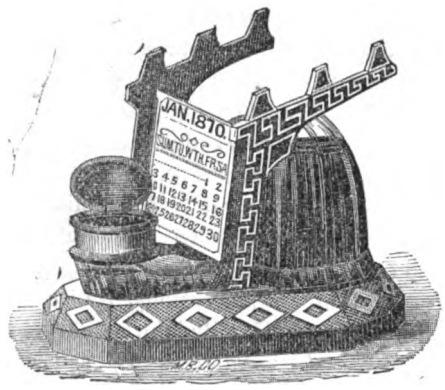

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, JANUARY 20, 1872. NUMBER 3.

GREEK SCULPTURE.*

I propose commencing with the history of Greek sculpture, not because the study of the arts of nations whose histories began earlier than that of Greece, is uninteresting or uninstructive; but Greece was the first to develop and establish principles in the Fine Arts, and, fortunately for us, it was in the enduring materials of brass and marble that her artists achieved their greatest triumphs. There is sublimity and grandeur in the winged bulls and colossal heroes of Assyrian art: and the basalt kings of Egyptian dynasties are shrouded in impressive and solemn mystery. But each Assyrian bull is the counterpart of its fellow, and all the Egyptian heroes have the same straight fingers, the same stiff toes, and the same impossible anatomy. They are alike in countenance and in dress. Sitting or standing they present no variety of action. Their positions are stereotyped and their expressions frozen. The great wonder is how the rules by which they were carved could have been preserved through so many generations for all Egyptian sculpture might have been turned out of the same studio.

In Asia and Africa the arts were the slaves of religion. The artists were priests, who exercised their profession within narrow limits, in accordance with rigorously prescribed rules, and always for religious purposes, Forms were symbolical and as sacredly preserved as the doctrines of the religion they symbolized. Greece was the first of civilized nations to make religion as free as air, and to loosen the fetters of superstition that bound the arts.

Again, Greek art was progressive. It budded, it flowered, it faded, drooped and died. We deduce from its study laws of growth and laws of decay. It was sensitive to all the peculiarities of Greek character, and to all the changes in Greek history. It was rough and self distrustful while the nation was in its school days; it was solemn and dignified while work was earnest and faith in the gods intact; it exulted in national triumphs and became with the nation luxurious and effeminate; it was corrupted with the corruptions of national spirit and was conquered with the country. It did not long limit itself to affording objects for religious veneration. It embellished literature and illustrated history. It was domestic as well as public. It made colossal statues of the gods for the worship of the nation, and was no less true in carving a simple memorial on the tombstone of a humble citizen. In short, it lived as Greece lived and died with it. It has fixed for the instruction of all ages inalterable rules. Without studying Greek art, it is worse than useless for any one to attempt to be a thorough artist.

In order to understand any school of art we must know something of the race that produced it, of their history, of the country in which they dwelt, and of the external influences brought to bear upon them. I shall merely touch upon this part of the subject, as to many of you the history of Greece is as familiar as that of your own country, and the poetry and prose of all languages are full of descriptions of Greece and the Greeks. A given race, in a given country, under given circumstances, cannot be relied upon to produce a certain school of art. The elements are neither chemical nor mathematical; but of a far more subtle nature. Art instinct is a plant of wondrous growth. At times it flourishes where the land is sterile, and the winds cold and biting. Then again, all favor of nature and circumstance fail to give it vigor. Still it is not beyond such influences, and consequently the circumstances of the great artistic periods of the world's history must be studied.

Therefore for a moment, *the race*. Philologists point to a time when Indians, Germans, Celts, Latins, and Greeks were all one race, spoke the same language, inhabited the same country in the heart of Asia, and possessed the same degree of culture. Later, Latin and Greek are still one but separated from their brethren. They push forward along the southern peninsulas of Europe and grow apart in Italy and Greece. The Indo-Germanic race is the race from which we spring. Perhaps we may therefore form a fair idea of a Greek by comparing him to one of ourselves. In statue and appearance the average Greek may be well represented by the average Anglo-Saxon. The Greek ideal face is not the face of Greek portraiture. The busts of statesmen, and warriors, dug from Attic soil, present faces such as we meet daily in business and social life, and offer that variety of feature and expression that is always found in free and enlightened countries. Intellectually, the Greek was quick, keen, versatile, and philosophic; most abundantly supplied with what the French call "*esprit*," that is, a vivacious and sparkling wisdom; and not lacking in Yankee smartness, that is, a vigorous and inquisitive activity. In early and legendary periods Grecian heroes are as renowned for cunning as for force and cunning achieves at least equal results. It is not Achilles but Ulysses who brings a life of adventure to a happy and successful ending—the cunning deep-planning Ulysses of many wiles, the most successful liar of history or fiction. All through the history of Greece and in every department of her life are evidences of the wonderful and superabundant intelligence of her children. Their discoveries in mathematics, for instance, were far in advance of the requirements of their simple lives, and not even yet, in the complications of modern civilization has their practical use been exhausted. Kepler in the beginning of the seventeenth century, was the first to avail himself, in the science of astronomy, of the properties of conic sections discovered by the Greeks hundreds of years before Christ. Necessity with us, is the mother of invention and the child is always under maternal control; but with them, as with Zeus, son of Kronos, the child supplants the parent and rules illimitably. Even when the national spirit is broken and Greece is but a province of Rome, she still furnishes the world with its rhetoricians, logicians and artists.

In morals the Greek possessed a very simple and very practical standard. His highest principle of action was patriotism. Things that made him fitter to serve the state were virtues, and all things that unfitted him for the performance of his duties as a citizen were vices. His body must be trained to meet the demands of a soldier's life and when trained, exhibited as a model and incentive. His mind must be informed of his duties to the state and strengthened to perform them. Excess in all things that enervate mind or body was wrong. Moderation in everything was permitted. Our morality is spiritual and internal; theirs was material and external. Ours is a conflict between flesh and spirit; theirs had but one practical object to which both body and spirit were harmoniously subordinated. Their history is, therefore, full of instances of wonderful patriotism, and abounds in acts that Christianity considers scandalously immoral.

That the Greeks had a keen insight into nature, and a quick perception of all beauties of nature and art, is evident from the remains in verse and marble of her poetry and prose. The whole gamut of poetic feeling is again and again struck and chorded.

Look for a moment at the country where this gifted people dwelt, and see what a suitable habitation it was for them. Greece is a triangular peninsula advancing from Turkey into the sea. Though no longer than Portugal, numberless capes, promontories, and bays give it as much sea coast as has Spain. Mountains running through it in all directions, cut it up into patches and give variety of temperature and products to every part. A fringe of islands and colonies on the opposing coasts complete the national domain. The climate, even now, is described as lovely and must have been delicious, when every plain was tilled and the now barren heights were clothed with forests. Mountainous countries have ever been the abode of freedom and the sea ever incites to enterprise. All the states of Greece cultivated liberty within their rock-bound territory; all emulated in adventure on the common sea and brought back knowledge of each other and of the outer world. In Attica, midway between North and South, frosts were rarely known, and all over the Peloponnesus, the heats of summer were tempered by refreshing sea breezes.

It is not my purpose, as I have already said, to do more than glance at this part of the subject. I am not of those who deduce schools of art from a combination of physical elements. It was not the mildness of the climate inducing scantiness of attire, that led the Greek mind to the study of the human form and to perfecting its representation; for the climate was still milder on and Nile and on the Euphrates, where garments were worn full and heavy, clothing and hiding form. It was love of the beautiful in form that led the Greeks to take advantage of the mildness of climate, and the natural innocency of the heart, that saw no offence in the display of beauty. Switzerland and the Tyrol far surpass Greece in the grandeur of natural scenery and nowhere has the tree of liberty found more genial soil. If Tell never existed he has as strong a personality as the most authentic character of history, and Hofer's deeds rival those of Leonidas. Yet nowhere have the Fine Arts had less life than in these two countries. In energy, in enterprise on land and water, in quickness of intellect, in fertility of ideas, what people approach the Anglo-Saxons? and yet to this day what has England done in the Fine Arts? On the other hand the Dutch, whom we are wont to stigmatize as phlegmatic, who live in bogs and fogs, who rarely see the sun but when it passes from one cloud to another, and who pass their lives like beavers, half under water, battling with the elements for a handful of soil, have produced one of the finest schools of art in history, and that too, in the midst of social, religious, and political disorders, that one would think sufficient to destroy every vestige of artistic feeling. Where the art instinct exists it will thrive in spite of all material opposition, and that too, in men who seem entirely unfit for its reception. For artists are noble and mean, generous and sordid, pure and vile, just as are other men. There are artists who will traffic with their noblest conceptions and sell talent for a mess of pottage.

Take the history of Andrea del Sarto, whose compositions are second alone to Raphael's and who often surpasses him in nobility and intensity of sentiment. Loaded with honors by Francis I, and charged with the purchase of works of art in Italy, he broke his trust and wasted his patron's money in debauchery; and then when in old age poverty pressed him sorely, with an apparently ruined body and mind, he returned to his palette and painted with the power of perpetual youth, works which equaled, if they did not surpass the efforts of his earlier and purer days. Artists can ever be found who will represent that in which they disbelieve, as lawyers are ready to defend causes the justice of which is questionable. A poem by Giotto has lately come to light, in which that eminent artist in giving his views of life, its pleasures, and its sorrows, holds up to special

*A lecture introductory to a course on "Greek Sculpture," to be given in the Yale School of the Fine Arts, Monday evenings during the present collegiate term, by D. Cady Eaton, professor of the History of Art in Yale College. This lecture was delivered, Monday evening, Jan. 8, 1872.

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ridicule the Franciscan monks and their real or pretended devotion to poverty. Now this poem must have been written at, or about, the very time, when in the employ of the Franciscans, Giotto was covering the walls of their church at Assisi with emblematic representations of the attractions of poverty,—frescos that for depth of sentiment and purity of religious thought remain unrivalled.

I have no intention to disparage artists. But to classify them by themselves, as apart from and above the rest of mankind, is the great error. They are subject to the same intellectual and moral laws that govern others. Artistic talent does not bring exemption from the weaknesses and passions of ordinary humanity and is no excuse for them. Industry and perseverance are as essential to success in Art as in Law or Medicine. Patient industry has developed many a genius in the Fine Arts; while disorder and lack of application have often rendered its development impossible. In judging artists and in our own artistic education let us not suppose we are dealing with anything superhuman or that without inspiration we shall fail of success.

There are a few points in Grecian history and but a few that are as mile-stones along our path. The first is the so-called return of the Heraclidæ, or emigration of the Dorians from the North to the South of Greece; driving out the former inhabitants and founding the Doric kingdoms of the Peloponnesus. This occurred about 1000, B. C. The Dorians are the proper inventors of Greek architecture, and it could not have been long after the commotions caused by their irruption had subsided, that the first strictly Greek temple was erected, and gave the world an entirely new artistic idea.

From the return of the Heraclidæ to the Persian invasion in 480, B.C., is the traditional and formative period of Greek art. Reliable dates and names are rare; yet in fragments that remain, are evidences of steady, progress in liberalization of ideas, proper appreciation of nature, and the formation of artistic types.

The next period to be remembered is the time following the defeat of Xerxes and the Persian hosts in 480 and 479, B.C. Then under Phidias and his immediate followers, Grecian Art attained its full development. Then patriotism, ever the best sentiment of the Grecian heart, was in its highest and purest state of exaltation. Through the heroic exertions and sublime devotions of her children, Greece had been freed from all danger. The Asiatic hosts had been driven back with such overwhelming defeat, that there was no apprehension of their return; and the booty left behind sufficed for the erection of the magnificent trophies of history. That Phidias should have lived at this period, may be a remarkable coincidence, or he may have been a natural product, a necessity of the time. In these days arose the Parthenon, the sculptures of which still live to tell us of the full glories of Grecian art; the Erectheum; and the gold and ivory statues of Pallas Athenæ, and of the Olympian Jove.

From the time of Phidias to the time of Alexander, 336, B.C., a period of 150 years, sculpture flourished in undiminished splendor, changing its characteristics, to be sure, but only to reveal new excellencies. During this period of civil wars and internecine strife, the purity of early faith was shaken. Patriotism was often lost in partisanship; sense supplanted piety; and individuals not the state and its divinities, were feared and venerated. Art sympathized with all the changes. It lost the simplicity and purity of early types. It became sensuous; yet for the first time began to treat man individually and historically.

From Alexander to the Roman conquest in 146, B C., the arts declined. Under Roman rule the arts were no longer the expressions of natural life, but existed merely as a profession. Still the works produced at this time by Greek artists, in the pay of foreign princes, excite the highest admiration. The Laocoön and the so-called Dying Gladiator are, by many artists assigned to this time; and are unsurpassed by the productions of any period of Grecian history.

The Greeks undoubtedly received their first notions of statuary from the Egyptians and Assyrians. The influence of these nations is clearly seen in early works, and can be traced far into subsequent history. The first statutes were undoubtedly images of their gods, rudely fashioned in wood and stone. Many of these images, blackened with age and sanctified by tradition, existed long after anatomy was understood and a sense of form fully developed; just as in our day superstition falls down before formless stumps of the Virgin, claiming for them a celestial origin. In primeval times it was sufficient to say to the believer; "This is your God." His simple faith asked no questions, but worshipped. Soon, however, faith was invaded by sense and the worshiper demanded in the image of his god, a representation of the qualities with which his religion endowed him. To the Greek imagination the gods presented themselves in human shape. Their forms must, therefore, be the forms of men and women, but supernatural in strength and beauty. When faith departed, the ideals thus created remained, and were used to represent and ennoble the sentiments and emotions of humanity. First religious sentiment without reference to form; second, religious sentiment combined with form; third, form alone, or form expressive of strictly human sentiments. These three steps are distinctly marked in the history of Italian and Gothic, as well as Grecian art.

In concluding this lecture permit me a few personal remarks. The Fine Arts have been the subject of much eloquent writing and speaking, and they will ever furnish themes to the poet and essayist. But this is to be a course of practical instruction. I shall place before you representations of works of art, describe them, and cite the best criticisms, that have been passed upon them, and that is all. Art critics have ever amused themselves theorizing on the birth, growth, and development of artistic periods. Climate, land, race, and history have been endlessly analyzed and combined. One thing and one thing only is certain,—that wherever, in any community, there exists a desire to possess works of art, an appreciation of their merit, and means to procure them; there in some form or other art will flourish, be it among the quagmires of the Zuyder Zee, under the domination of Roman emperors, or amid the tyrrannies and assassinations of Italian mediæval life. It is far better therefore, for us to study the productions of schools of art than to theorize among obscure and uncertain causes. My object is to impart knowledge. If knowledge be transmitted into your consciousness, there will be no lack of sentiment; and if sentiment be properly directed, there will be no lack of artistic activity. I shall trouble you very rarely with thoughts or observations of my own; but shall take the greatest liberty with the thoughts and observations of others. I have no desire to make the course entertaining to the merely careless listener, but trust it will be of assistance to the earnest student. For in the second place, my efforts will be entirely unavailing unless accompained by work on your part. The study of the Fine Arts demands earnest application, toil, patience, and perseverance. There are questions of ethnology language and criticism, all of which are interesting; many of which are necessary to an understanding and appreciation of works of art. Time will not allow me to treat of many of them; many I can but point out to you and recommend to your private study.

Literature and the Fine Arts are so wedded, that without an acquaintance with the one, there can be no full appreciation of the other. You must, therefore, familiarize yourselves with the Greek poets—not necessarily in the original, however, for that would be a life's-labor. Translations, of course, cannot give the rhythm, and they mar the beauty and delicacy of the thoughts; but they cannot destroy the spirit, and that we must sieze and make our own. Let Homer, Hesiod, Aschylus, and Sophocles be your companions for the winter, and let Grote and Curtius be within reach.

The ability to read German is a prime necessity to every student of the Fine Arts. From the time of Winckelman to the present day, the best of artistic criticism and history has been in that language. Most of the vexed questions connected with classic art have been solved by Germans, and they now carry the torch of investigating criticism far in advance of all other nations. German writers are often obscure, and sometimes more suggestive than comprehensible. Each author has his own words and peculiar expressions, which the license of the language allows him to multiply and use at pleasure. Many still indulge in the rhetorical fault of interminable sentences. You are told that they belong to the genius of the language, but there are common rules that apply to all languages, and their observance should be enforced by philologists.

Finally, let every student of the Fine Arts be a draughtsman. Ability to draw will not only be a source of great and even unceasing pleasure, but it will be of the greatest assistance in his studies. How numberless the objects that cannot be described but must be represented! A sketch of a picture or of a statue is far more suggestive than the most elaborate description. Above all is drawing valuable in assisting to the perception and retention of form and beauty. The act of sketching brings you into close and intimate union with the thing sketched. New beauties reveal themselves, details are estimated at their proper value, and there grows up within one a delightful sense of possession. Let no one say he cannot draw until repeated and well directed efforts have satisfied him and his master, that unkindly nature has sent him into the world deprived of a most ordinary faculty. Not one person in a thousand but has some power of distinguishing distance and dimensions. This and fingers are all that are necessary to start with. In very few, is perception of form sufficiently accurate to beget a distinguished draughtsman; but in young and old it can be cultivated into an inexhaustible source of pleasure and profit.

So let us start in earnest with hand, head, and heart, and I promise that you will soon be able to recognize and enjoy breezes from Parnassus.

MATHEMATICS IN HISTORY.

BY PROF. ROBERT FLETCHER, DARTMOUTH COLLEGE.

Mathematics is defined by Davies as that science which treats primarily of the relations and measurement of quantities, and secondarily of the operations and processes by means of which these relations are ascertained. The word is from the Greek *μαθηματική*, which is from *μανθάνω*, to learn, and signifies science, or learning in general.

The infant mind, emerging from a state of unconscious existence, obtains its first conceptions of number and quantity from material objects. As soon, however, as the mind is turned into the proper channel, the notion of matter is no longer necessarily retained, and the ideas of *number* and *quantity* gradually become more purely abstract. So the human intellect, when, in its infancy, it began the wonderful career of progressive development which the Almighty has designed it to accomplish, doubtless very early apprehended abstractly the simplest properties of numbers. One writer says: "It is evident, from the nature of the case, that some knowledge of numbers and of the art of calculation was necessary to men in the earliest periods of society, since, without this, they could not have performed the simplest business transactions, even such as are incidental to an almost savage state." In those primeval days, the wealth of men consisted mainly of flocks and herds and the products of the ground; again, by the sacred Writ, we perceive that accurate record was kept of the lapse of years and the dates of events; it is certain, therefore, that the element-

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ary properties of numbers were understood at a very early date, perhaps long before any written characters to express the numbers were invented. Here then we find the beginning of *Arithmetic*, or the science of numbers, so called from the Greek ἀριθμητική (arithmetica, L.) or ἀριθμὸς—arithmos—number. As the child enters the great field of mathematics through the gateway of arithmetic, so mankind, in historical childhood, began with this fundamental branch of the great science.

We may assume, with reason, that arithmetic was first developed into a science by the primitive Chaldeans. In very ancient days they acquired, by persevering and intelligent observation, a considerable amount of astronomical knowledge, and such of this as has come down to us shows a high order of mind and indicates at least an elementary knowledge of numbers as a science. Their knowledge on this subject undoubtedly passed into Egypt, where it was cultivated by the priests or magi of that country.

From Egypt nearly all that was known of arithmetic, as well as other sciences, was carried to Greece. Grecian philosophers were famous for their zeal in investigating truth and for their success in extending the ranges of human knowledge. They studied profoundly the properties and combinations of numbers. Pythagoras, who flourished about 555 B. C., was learned in all the sciences then known. He invented the multiplication table, sometimes called the Pythagorean table. Arithmetic is much indebted to him. His school developed many useful and curious theories of numbers.

Bossut, in his History of Mathematics, writes: "It is not possible to follow the progress of arithmetic among the ancients, step by step, during the night of time. We can only judge from their works that have come down to us that it must have advanced with rapidity, as the first of all the sciences and the key to the rest. Besides addition, subtraction, multiplication, and division, the ancients possessed methods of extracting the square and cube roots, and they were acquainted with the theory of proportions and arithmetical and geometrical progressions. Diophantes, one of the most celebrated mathematicians of the Alexandrine school, made one remarkable step in arithmetic: he invented the analysis of indeterminate problems, of which there are so many curious and useful applications, both in pure arithmetic and algebra, as well as in the higher geometry." Diophantes flourished about the middle of the third century, A. D.

The ancients used for numerical computations the *abacus*, a long table or horizontal slab covered with sand in which the characters were traced. The same name was applied to an instrument used by the Romans for a like purpose. It was a frame, held vertically, containing, at small intervals, horizontal wires, on each of which nine beads were made to slide freely. On the first wire were counted units, on the second tens, on the third hundreds, etc. This is used at the present day in primary schools.

From the Christian era to the Arabian supremacy, Diophantes was the only arithmetician of great note.* The studies of Grecian and other philosophers in arithmetic were mostly confined to idle speculations and superstitious theories concerning numbers. Many of these are curious, but very few have the slightest utility.

* Chronological table of eminent mathematicians, Barlow's Mathematical and Philosophical Dictionary; London, 1814.

Notwithstanding the genius of the Greeks, they, as well as all the ancients, to the time of the Arabians employed the cumbersome method of numerical notation by letters. Concerning this, Greenleaf, in his Introduction to the National Arithmetic, writes as follows: "Among the ancient nations which possessed the art of writing, it was a natural and common device to employ letters to denote what we express by numeral figures. Accordingly we find that with the Hebrews and Greeks the first letter of their respective alphabets was used for 1, the second for 2, and so on to the number 10—the latter, however, inserting one new character to denote the number 6, and evidently in order that their notation might coincide with that of the Hebrews, the sixth after of the Hebrew alphabet having no corresponding one in the Greek. The Romans, as is well known, employed the letters of their alphabet as numerals." Their system is explained in every work on arithmetic, being still in use for some purposes. "In the classification of numbers, as well as in the manner of expressing them, there has been a great diversity of practice." While we adopt the *decimal* scale, and reckon by tens, the aborigines of Mexico, according to Humboldt, and some of the early nations of Europe, adopted the *vicenary*, reckoning by twenties; some of the Indian tribes and several of the African tribes use the *quinary*, reckoning by fives; and the Chinese for more than 4,000 years have used the *binary*, reckoning by *twos*. The adoption of one or another of these scales has been so general that they have been regarded as natural, and accounted for by referring them to a common and natural cause. The reason for using the *binary* scale probably lay in the use of the two hands, which were employed as counters in computing; that for employing the *quinary*, in a similar use of the five fingers on either hand; while the *decimal* and *vicenary* scales have respect, the former to the ten fingers on the two hands and the latter to the ten fingers combined with the ten toes on the naked feet, which were as familiar to the sight of a rude, uncivilized people as their fingers. It is an interesting circumstance, that in the common name of our numeral figures, digits *(digiti)* or fingers, we preserve a memento of the reason why ten characters and our present decimal scale of numeration were originally adopted to express all numbers, even of the highest order."

It is generally considered that the common decimal system of notation and numeration is superior to all others. Leibnitz and DeLagni (1680–1700 A. D.) advocated the *binary* scale.* But very many claim that the *duodecimal* has advantages which make it superior to every other system. Claudius Ptolemy (A. D. 150) claimed great advantages for the scale of sixties, called the *sexagenary*.† The decimal system has been almost universally adopted and most mathematicians are at least satisfied with it.

For the duodecimal scale two additional characters are necessary. Still employing the ten now in common use, let us represent our number ten by ϕ, which we will call *me*, and our number eleven by ɣ, which we will call *sol*. Then the two systems will compare as follows:

Duodecimal.			*Decimal.*
1	one	=	1
2	two	=	2
3	three	=	3
4	four	=	4
5	five	=	5
6	six	=	6
7	seven	=	7
8	eight	=	8
9	nine	=	9
ϕ	me	=	10
ɣ	sol	=	11
10	ten	=	12
11	eleven	=	13
12	twelve	=	14
13	thirteen	=	15
	Etc.		
19	nineteen	=	21
1ϕ	me teen	=	22
1ɣ	sol teen	=	23
20	twenty	=	24
30	thirty	=	3×12= 36
	Etc.		(10)
ϕ0	mety	=	ϕ×12= 120
ϕϕ	mety me	=	130
ϕɣ	mety sol	=	131
			(11)
ɣ0	solty	=	ɣ×12= 132
ɣϕ	solty me	=	132+10= 142
ɣɣ	solty sol	=	132+11= 143
100	one hundred	=	12^2= 144
ϕ00	me hundred	=	144×10= 1440
ɣ00	sol hundred	=	144×11= 1584
1000	one thousand	=	12^3= 1728
ϕɣ2ϕ	me thousand sol hundred and twenty me	=	17280 + 1584 + 24 + 10 = 18898
	$=12^3\times10+12^2\times11+12\times2+10$		
10000	ten thousand	=	12^4
100000	one hund. thousand	=	12^5
ϕ89ɣɣϕ1	me million, eight hundred ninety me thousand, sol hundred and solty one	=	$12^6\times10+12^5\times8+12^4\times9+12^3\times10+12^2\times11+12\times10+1$. (ϕ) (ϕ) (ɣ) (ϕ)

One great advantage of this system is that its scale number, our twelve, has four factors; 2, 3, 4 and 6; while ten, the basis of the decimal system, has but two, viz: 2 and 5. It is thought, and with much reason, that this system affords increased facility for rapid and extensive calculations. It possesses marked advantages otherwise which are obvious to a mathematical mind.

We have thus traced the rise and progress of arithmetic to the time of the Arabian dominion, (A. D. 600–700). All knowledge of the science as we now have it has come to us directly from the Arabs. Every schoolboy knows that our numerical figures are Arabic characters. Their knowledge of it was probably received in part from the Hindoos, who have the honor of the invention, as we cannot trace it farther. The latter, however, give the honor to Divinity, declaring that the invention of nine figures with the device of a place, is to be ascribed to the beneficent Creator of the universe. Through the Arabians we receive all the accumulated knowledge of the Greeks, as well as what they learned from the Hindoos.

Leaving arithmetic for the present, we will, in another paper, trace the history of *geometry*, the next great branch of mathematics.

* The binary scale is that in which only two characters are employed, as 1 and 0; by the different combination of which any number whatever may be expressed, thus:

1	denotes	1	In this scale the figures increase from right to left only in twofold proportion. Hence, 1111=2^3+2^2+2+1=15. Leibnitz and some French authors have thought this system of arithmetic is in some respects better adapted to numerical investigation than the common or decimal scale. But the system is not convenient to use on account of the number of figures necessary to express any considerable number. Thus: 11111111111111111111 = 1,049,205 requiring 20, figures to express it.
10	"	2	
11	"	3	
100	"	$4=2^2$	
101	"	5	
110	"	6	
111	"	7	
1000	"	$8=2^3$	

† Such is the scale of degrees, minutes, seconds, etc., used in astronomy. Thus 28° 14′ 18″ 19‴, etc., in which 1°=60′, 1′=60″ 1″=60‴, 1‴=60^{IV}.

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ALUMNI REPRESENTATION AT DARTMOUTH.

The following extract from an article in the January number of the *The Dartmouth*, will give an idea of the relation of the Alumni of Dartmouth College to that institution, and also, of the position of the Trustees in in reference to coöperation on the part of that Alumni. Evidently there are some fossils among the controlling powers at Hanover. The article from which the extract is taken is a bold and manly plea for a closer relation of the Alumni to the management of the college. After treating of the fact of a want of sympathy between the Alumni and the trustees, and the causes of the same, the writer proceeds:

The College needing aid, and the importance to the future success and eminence of the Institution of maintaining a filial feeling being recognized as vital, in view of the foregoing facts a Committee was appointed by the Alumni, at the Centennial Celebration, "to take measures to increase the funds of the College, and to consider what steps ought to be taken to bring the Alumni into a more intimate relation to its management." When we look at the Committee, composed of Chief Justice Perley, Prof. S. C. Bartlett, Hon. James Barrett, Rev. A. H. Quint, Hon. J. W. Patterson, Hon. Amos Tuck, Hon. Charles Reed, Hon. G. W. Burleigh, it clearly combined a strength of legal, literary and business character, of which the Alumni had reason to be proud. They were on the whole a very conservative body, and expressed themselves very carefully as well as kindly. They submitted a communication to the Trustees, concurring unanimously in the opinion that it is essential to the proposed ends, *i. e.*, to increase the College funds and bring the Alumni into more intimate relation to its management:—

"That a minority of the Board of Trustees should be elected upon the nomination of the Alumni of — years graduation, each to hold his place as Trustee for — years, being eligible for re-election."

"That it is desirable that the term of office of the other Trustees should by some arrangement to be made by the Board, be understood to be for a limited period, not exceeding — years."

"That it is also desirable that a Committee of the Alumni should be appointed from year to year, who shall examine the accounts of the Treasurer, and make report to the Alumni as to the financial condition of the College.

"That it is the opinion of this Committee that the restriction in the charter, by which eight of the Trustees are necessarily residents of New Hampshire, is prejudical to the best interests of the College; and they suggest that the inquiry be made by the Trustees, whether the charter may not be modified by the joint action of the Trustees and the Legislature, so that said restrictions may be legally removed."

Thus it appears that the Alumni asked no perfect right, but simply the liberty of exercising certain privileges. It was, we are told, generally understood that if their requests were granted, an effort would be made to raise a fund of two hundred thousand dollars for the College, at once.

A reply of the Trustees was adopted July 4th, 1870, in which after expressing their gratitude at the interest of the Alumni in the welfare of the College and avowing their belief that without the hearty and generous coöperation of the Alumni no large success could be looked for, and that with it the Institution can not fail to prosper; they state their views and conclusions, which condensed, are as follows:—

"The election of any number of Trustees on the nomination of the Alumni, while it might promise some advantages, would be open, it is thought, to grave objections. If the nominations were of binding force, it would seem to be a virtual violation, of the spirit, at least, of the charter. It is doubtful, besides, whether a question which requires the most careful consideration of personal fitness could be best committed to any form of *popular* election. There would be a constant liability to hasty and perhaps partizan action, to jealousies and feuds, to annoying disappointments, to permanent and damaging alienations.

"As respects the term for which members of the Board shall hold office it is obvious that without a change of charter no new arrangement could be made obligatory. The matter may best be left to the good sense and voluntary action of individual members.

"As to the number of Trustees from the State of New Hampshire, it is the judgment of the Board that it should ordinarily be no greater than the charter positively requires. And it is their purpose in future elections, to select as many as may be, from without the State, thus having all possible regard to the national character which the College is more and more assuming.

"As it respects a change in the College Charter, it does not seem to the Trustees that even if practicable—of which many have doubted—it would, on the whole, be wise. The Alumni need not be reminded of the great battle for the indefeasibility of this Instrument. We may well hesitate to undo, or seem to undo, what was so thoroughly and so nobly done. We may well shrink from putting the College afloat on the troubled and turbid sea of party politics; the beginning of legislation might be as the letting out of waters. Capital is jealous of all change, capital is slow to commit itself to mass meetings. The Trustees are convinced that it would be much easier to raise whatever funds are needed by the College under the present organic law, than under a changed, and as many would think an endangered or less trustworthy charter.

"A plan has occured to the Trustees, by which most if not all the ultimate ends contemplated by the Committee may be easily and pleasantly accomplished. The most important and protracted of our examinations take place near to the time of the Commencement exercises. It has been customary to appoint a large Examining Committee, who at the close of their work make a report to the Trustees. What the Trustees would now propose is that the appointment of this Committee be devolved on the Alumni. This Committee would have ample time, during the successive days of the examination, to make all desirable observations and inquiries in relation to the condition, methods, prospects and wants of the Institution. They could not only take the opportunity to make private suggestions to members of the Faculty or Board of Trustees, but they could embody in their Report to the Board, whatever they might deem it proper and desirable to say. A channel of facile and agreeable intercommunication would then be opened."

"The Trustees would express, finally, their hearty approval of the proposal of the Alumni to raise for the College a fund of two hundred thousand dollars. This is the very least sum that would, in any reasonable view, meet our pressing wants. Increase of funds is indeed almost our only need. The Trustees will welcome the coöperation of the Alumni—in whatever appropriate methods they may be pleased to suggest—in the good work of giving to this ancient Institution an endowment worthy of its origin, its history and the ever expanding field that opens before it."

Such was the repulse received by the Committee of the Alumni. It is the opinion, we learn, of some who have means of knowing the general sentiment, and very frankly express it, that it would have been wise to have made some free and appreciative response, out of regard both to the great associate body of the Alumni, and out of respect to a Committee of such men. Be this as it may, it is not for us to examine and criticise the reply of a Board of Trustees; yet we may be pardoned in hesitating to accept some of its conclusions.

— Among the books recently given to the General Theological Library at Boston, is a fine copy of a Bible in the Greek language, Ex Codice Vaticano, in five volumes, printed at Rome, the gift of John H. Wright, Esq., of Boston.

SCIENTIFIC.

Artificial Ebony is now prepared on a large scale by grinding to powder sixty parts of charcoal obtained from sea-weeds, and previously treated with dilute sulphuric acid. This is to be dried, and mixed with ten parts of liquid glue, five of gutta percha, and two and a half of rubber, the two last having been previously mixed with coal tar oil, to render them gelatinous. Ten parts of coal tar, five of pulverized sulphur, two of pulverized alum and five of powdered resin are mixed and added, and the mixture heated to three hundred degrees Fahrenheit. When cooled, a substance capable of taking a fine polish is obtained, equal to genuine ebony wood, and much less expensive.

Photographed Nerve-Sections.—Dr. Duchenne, of Boulogne, has presented to the French Academy of Medicine an album containing copies of photographs of the appearances presented by sections of the great sympathetic nerve, the spinal ganglia, the spinal cord, and the medulla oblongata greatly magnified. He fixed the photographs on stone by a process he terms photo-autography, the details of which, however, he does not communicate. It is satisfactory to find him stating that the results confirm the substantial accuracy of the beautiful drawings made by Dr. Lockhart Clarke on the central part of the nervous system, and especially upon the medulla oblongata. In his later experiments Dr. Duchenne has adopted Dr. Clarke's method of preparation with chromic acid and carmine. He states that certain micrographic details come out with wonderful clearness in the photographs, and that by this means some important additions may be made to our knowledge. He has ascertained that in the white substance of the medulla oblongata there are nerve tubules from thirty-three ten thousandths of a millimeter to three-hundredths of a millimeter in diameter.—*Nature.*

Phosphorescence of Marine Animals.—Prof. Panceri of Naples, has been studying for some time past the phosphorescence of marine animals. He has examined *Noctiluca*, *Beroë*, *Pyrosoma*, *Pholas*, *Chætopterus*, and has lately published a paper on the phosphorescence of *Pennatula*. He finds in all cases that the phosphorescence is due to matter cast off by the animal—it is a property of dead separated matter, not of the living tissues. In all cases (excepting *Noctiluca*) he also finds that this matter is secreted by *glands* possibly special for this purpose, but more probably the phosphorescence is a secondary property of the secretion. Further the secretion contains epithelial cells in a state of fatty degeneration and it is these fatty cells and the fat which they give rise to which are phosphorescent. Hence the phosphorescence of marine animals is brought under the same category as the phosphorescence of decaying fish and bones. It is due to the formation in decomposition of a phosphoric hydrocarbon, or possibly of phosphuretted hydrogen itself. In *Pennatula*, Prof. Panceri has made phosphorescence the means of studying a more important physiological question—namely the rate of transmission of an irritation. For, when one extremity of a *Pennatula* is irritated, a stream of phosphorescent light runs along the whole length of the polyp-colony, indicating thus by its passage the rate of the transmission of the irritation. This admits of accurate measurement and furnishes data for extending Helmholtz's and Donders's inquiries to animals so widely separated as are the Cœlenterata from the amimals they have thus far experimented on. Prof. Panceri has made use of the spectroscope in studying the light emitted by these animals.

Photographic Ghosts.—Photographers are acquainted with three or four different ways in which secondary images may appear in photographs. In the first place, when a sensitive glass plate has served its turn as a negative—as many paper positives as may be needed having been taken from it—the film of col-

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lodion or other prepared surface is removed from it, aud it may then be used for a wholly new photograph. But it is found that unless great care be used, some faint traces of the former picture still remain, and these may appear as a sort of ghostly attendant upon the figure forming the second picture. One photographer, in endeavoring to utilize an old plate which had fulfilled its duty as a negative, could not wholly erase the image, wash or rub as he might; there was always a faint ghost of the person accompanying any subsequent photograph taken on the same plate. Dr. Phipson relates that a friend of his received at Brussels a box of glass plates, quite new and highly polished, each wrapped in a piece of newspaper; a lady sat for her photograph, taken on one of these plates, and both the photographer and the lady were astonished to see that her likeness was covered with printed characters, easily to be read, —the ghost of a political article in fact. In this case actinic rays had done their work before the glass was exposed to the camera. By another mode of manipulation, a photographer may produce a ghost-like effect at pleasure; a sitter is allowed to remain in the focus of the camera only half the time necessary to produce a complete photograph; he slips quickly aside, and the furniture immediately behind him is then exposed to the action of the light; as a consequence, a faint or imperfectly developed photograph of the man appears, transparent or translucent, for the furniture is visible apparently through his body or head. With a little tact, a really surprising effect may be produced in this way. As a third variety, one negative may be placed in contact with another, and a particular kind of light allowed to pass through it for a time; there results a double picture on the lower negative.—*London Photog. Journal.*

Wonders of the Microscope. — The revelations of the microscope are so marvellous and unexpected that they seem to place us on the border line of the miraculous, so far are they not only beyond what could be reached by the naked eye, but even by the widest range of imagination. A large field for the gratification of inquirers in this department has been recently opened by M. Pouchet, an eminent French *savant,* in a work entitled "The Universe; or, The Infinitely Great and the Infinitely Little." We learn from him that it is possible to enlarge a surface 56,000,000 times. The microscope has made astonishing revelations of the physiology and habits of animalcules far eluding our unassisted vision, 10,000 of which could be ranged along the length of an inch, with organizations as complicated as that of man. Of their stomachs twenty are an ordinary allotment for one individual, and these are all coated with teeth, so that mastication and digestion constitute almost one process. Minute as are the blood-cavties for the circulation of this fluid they are fifty times as large and strong, in proportion, as the hearts of the horse and the ox. With so liberal a supply of material furnished by the innumerous, sometimes as many as 100, constantly working stomachs for the making of blood, and its transmission to all parts by such powerful machinery, the vitality and vital action of these little beings must be very great. There are no limits to their range of existence, they being found alike in the tropics and the polar regions, and a more annoying feature in their history, in the blood of man and other animals, and in the fibers of our muscles. They swarm in myriads in our mouths, fortunate for us if they do not go farther, and stop by forming with their skeletons the tartar of our teeth. The animalcules are not therefore, to be found in infusions only, and M. Pouchet properly objects to the name "infusoria," and he prefers calling them "microzoa" or "protozoa." They belong to several different orders, the individuals of which have little in common except extreme minuteness. The more remarkable if we look to the practical results of their industry are those microzoa, which possess the power of extracting silica or lime out of sea water to form their skeletons. To find the great work performed by the infinitely little we have only to look, as the result of this manufacture or elimination, at the extensive chalk and much of the siliceous strata of the globe, in, for instance, the tripolis of Bohemia and the Isle of France. We may regard these vast accumulations, whether made on the land or at the depths of the ocean, as but the cemeteries of animalcules, millions of whose corpses would not have made up a cubic inch.

Under certain circumstances the organic portions do not readily pass away, but form certain soils which contribute to the nourishment of man. Of these are the deposits of mountain meal of Lapland, of Degerner in Sweden, of Ebsdorf in the Luxemburg Heath, and of Santaflora in Tuscany. Hundreds of wagon loads of this mountain meal are annually consumed in Sweden. Minute polypi, or sea anemones, each one of which is not larger than a pin's head, are architects of islands and reefs, some of the latter a thousand miles in length. The same learned and ingenious exhibitor introduces to our notice the monads, true atomic bodies, of which a drop of water sometimes contains more than there are inhabitants on the earth. In the same easy and popular manner he places before his readers the marvels of the insect world, and the vegetable kingdom, the geology and atmosphere of the earth, and the sidereal universe. —*Philadelphia Ledger.*

Remarkable Results from the Bisulphide of Carbon Engine:—The *Scientific American* of Jan. 13 contains an excellent illustrated description of the new combined steam and bisulphide of carbon engine, invented by Mr. J. H. Ellis, which is now on trial at the Atlantic Works in Boston. It is really a double engine, the cylinders being ten inches in diameter and of twenty-four inch stroke. One of these engines is run by steam in the usual manner, and its exhaust is passed through the flues of a vaporizer, on its way from the cylinder to the atmosphere. This vaporizer is filled with a mixed volatile liquid, consisting principally of the bisulphide of carbon. The heat of the exhaust steam is sufficient to convert this liquid into vapor very rapidly under a pressure of 45 to 50 lbs. to the inch, and will carry the pressure up to 65 lbs. At this point the temperature in the vaporizer becomes equal to that of the exhaust steam, and no more heat will be imparted to it. This vapor is used in place of steam, to drive the second engine under a pressure of 45 to 50 lbs., as the temperature in the vaporizer is low enough at this pressure to completely condense the exhaust steam and absorb its latent heat, producing a larger amount of effective power than when used at a higher pressure; the vapor is superheated to the highest point that exhaust steam will carry it by passing it through a superheater, surrounded by exhaust steam in its passage from the vaprizer to the cylinder.

The performance of this double engine is remarkable. Two indicator diagrams are given to show the power attained by each separately, by which it appears that the mean pressure in the steam engine is 18·6 lbs. equivalent to 11·3 horse powers, and in the vapor engine 30·5 lbs. equivalent to 18·8 horse powers. In other words, the fuel required to produce 100 horse powers by the agency of steam, will also produce 166 additional horse powers if the exhaust steam be used to drive a vapor engine. Hence the total effective result in the combined engine is 2·66 times greater than that of the best steam engines; or what is the same thing, the same power may be obtained by the expenditure of three-eighths of the fuel.

The exhaust vapor is condensed in a coil of inch iron-pipe over which a blast of air is thrown by a blower. A small jet of water is commingled with this blast by means of a perforated pipe that sprinkles a slight shower of water into the current of air as it passes over the coil; this water, being evaporated and absorbed by the heated air, carries away the latent heat of the vapor very rapidly, producing a complete condensation with a very small amount of water. The condensed liquid is pumped back into the vaporizer continuously, only thirty-five gallons of it being used to fill the vaporizer and run the engine continuously. It is claimed that not more than half a gallon of liquid is lost in running a twenty horse engine ten hours; and as it costs only one dollar per gallon, the expense of running twenty horse power by this process, would be only fifty cents per day. All the exhaust steam is condensed by this process, and pure hot water furnished for the steam boiler, dispensing with a heater and avoiding all scale and sediment in the steam boiler.

If this combined engine justifies fully all present expectations, it must revolutionize the system of steam machinery. The charge of wastefulness hitherto justly brought against steam-motors, since they economize but one-twentieth of the power existing in the fuel, seems likely to be very much weakened in force by this new vapor engine, which, giving 2·66 times the power from the same weight of fuel, economizes very nearly one-seventh of the power which this fuel contains.

A somewhat similar engine, using carbon bisulphide vapor in place of steam, was used, we understand, for a time, some years ago, at the establishment of Merrick & Sons, Philadelphia. But we learn that certain difficulties incidental to the employment of so volatile a vapor, caused the experiment to be abandoned.

YALE PERSONALS.

'26, ROCKWELL.—At the recent meeting of the Berkshire Co. Bible Society, held in Dr. Todd's (Yale '22,) church, Julius Rockwell was re-elected president and Dr. Todd one of the executive committee.

'38 CLARK.—The news of the recent death of Rev. Perkins K. Clark, will strike many friends with surprise. Although he had been failing for several months yet the fact that he had frequently rallied gave hope that he might ultimately recover. Mr. Clark was a native of Westfield, Mass., and after graduation served for some time as tutor. Afterward he taught a while at Savannah, Ga. He completed his theological education at Andover, and was successively pastor at Chester Factories, Hinsdale, South Deerfield, and Mittineauge. In May last he removed to Charlemont, Mass. Bronchial troubles, to which he has long been subject, were aggravated by the labors and exposures of his removal; and to these an always slender constitution at length gave way. His son Edward P. Clark (Yale '70) has been since graduation engaged on the editorial staff of the Sprinfield *Republican.*

'41, NORTHROP.—B. G. Northrop, Secretary of the Connecticut State Board of Education was recently registered in Dresden.

'45, ESTY.—C. C. Esty, Framingham, Mass., was recently appointed by Governor Chaflin as a member of the State Board of Education.

'45, HARRINGTON.—George D. Harrington, Washington, D. C. is Chief Clerk of the Census Bureau.

'45, NICKERSON.—S. D. Nickerson, Boston, was installed on the 27th of Dec. as Grand Master of the Grand Masonic Lodge of Massachusetts. At the close of the ceremonies he gave an elegant banquet to about seven hundred guests.

'47, BROWN.—We have received the message of Gov. B. Gratz Brown, to the adjourned session of the twenty-sixth General Assembly of the State of Missouri, December 6, 1871. It is a pamphlet of thirty pages and contains suggestions in referrence to the State University which we hope to make use of.

'52, CANNING.—Edward W. Canning, who graduated at Williams College in 1834, and received the honorary degree of A. M. from Yale in 1852, has accepted an appointment in the naval office at New York and will at once remove to that city.

'57, POWERS.—Rev. Henry Powers has resigned the pastorate of the Elm City Congregational Church at Brooklyn, N. Y.

'59, BEARD.—Rev. Edwin S. Beard preached the Thanksgiving Sermon before the united Congregational and Baptist Societies at Warren, Me., on the occasion of the recent celebration of that day. The sermon has been published by request. Its theme was "The Future of Maine," and it was founded on the 18th, 19, and 20th verses of the XLIX chapter of Isaiah.

,70, DANA,—E. S. Dana has an article in the January number of the *American Journal of Science and Arts,* on the Composition of the Labradorite Rocks of Waterville N. H.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, JAN. 20, 1872.

We should be glad to receive the catalogue of every collegiate institution in the United States. We have already a large list but desire to render it as nearly complete as possible. All that are received will be duly acknowledged and information drawn from them which will be of value to all interested in collegiate education.

In our account of the regulations in reference to the John A. Porter Prize, printed last week, by a strange blunder, we omitted to say that the essays must be handed in within one week after the opening of the *third* academic term. It is worthy of notice in this connection that this prize is the first one thrown open to the whole university; the first one, in fact, that recognizes the university idea at Yale. The amount of the prize, not less than the honor connected therewith, would seem to stimulate an earnest rivalry, and we shall look with interest for the appearance of the first successful essay.

THE question of establishing a new university is now being agitated among the Methodists of the South-west. Considerable discussion has already taken place on both sides of the question; some favoring and some condemning the proposed project. Some desire a Theological Seminary alone for the better education of the ministers of that denomination; while others are for making the new institution a "Continental University." Some of the writers are opposed to thorough training for ministets, as likely to introduce a spirit of caste; and others conceive such training to be highly desirable. Altogether the whole subject seems to be in a state of extreme uncertainty and vigorous discussion. The only definite thing that can be said is that the name Central University has been proposed for the new institution, and that a meeting has been appointed, by those interested, to be held at Memphis, January 24th, to see whether anything, or what can be done in the premises. The whole project and attendant discussion, as it seems to us, is foolish in the extreme. It would be far better to concentrate the effort, the time, money and brains, necessary to found a new educational institution, upon some one of the colleges or universities which now exist in that region and are far from the ideal universities they might be. And their condition is due in no small degree, to the desire which seems to be so largely prevalent in the South and West to found new colleges and universities. In these days of rapid and easy communication it is better to have few places of learning and good ones; than to have many and consequently poor ones.

Although Japan was somewhat behind China in admitting foreigners to her shores, it is not at all certain that she will not surpass her in acquiring the civilization of the western nations. The recent news from the former country in reference to education is exceedingly gratifying. The minister of education, we are told is attempting a thorough remodeling of the Yeddo College, dismissing all the native teachers and reducing the number of students from 1100 to about 500, who are to be admitted or readmitted as the case may be on examination, after the manner of colleges in this country, as to their attainments and ability to learn. Still further, foreign instructors only, are hereafter to be employed, and in short, the design seems to be to render the institution, a college or university in the sense in which those words are understood in this country and Europe. But more than this the desire for instruction in foreign Languages and Science is represented as being very great, and there are now in different parts of the empire no less than nine schools for this purpose which receive the sanction and support of the government. A fact no less encouraging is the desire for female education, which is manifesting itself in various places. One school, exclusively for girls, which was opened last September has now 17 pupils, and a wealthy native merchant has offered to erect a school-house to which girls shall be admitted as well as boys. But perhaps the strongest indication of the disposition of the Japanese to acquire our civilization is the recent arrival at San Francisco of a Japanese embassy, accompanied by six princesses, five of whom, it is affirmed are to be educated at Vassar College, and that too, in accordance with a late edict of the Mikado, at the expense of the Japanese government. This, with the project recently discussed in Congress of admitting Japanese to West Point, and the rumored influx of Japanese students to our colleges show how thoroughly in earnest these people are, and at the same time how fully they appreciate the importance of education.

PRESIDENT MORTON'S LECTURE.

The second of the course of scientific lectures now being given in Music Hall under the auspices of the Yale Scientific Club, was delivered last Wednesday evening, by President Henry Morton of Stevens' Institute of Technology, Hoboken, N. J. The house was better filled than on the occasion of the opening lecture, and the lecture itself was a most brilliant exposé of its subject, "Light."

The Professor opened his lecture by stating, that while among the natural forces there was one class, including gravitation, electrical attraction, cohesion, chemical affinity, etc., about whose nature and causes, either proximate or remote, we knew absolutely nothing, there was another class embracing sound, heat, and light, about whose nature and origin we had every reason to believe ourselves well informed. These forces were, in fact, simply the expression of various kinds, or we might even say, rates of vibratory motion among the particles of matter, and were thus purely mechanical in their nature. Any or all of them could be produced by the direct and simple transformation of the momentum of a moving body, or like form of purely mechanical force, into a reciprocating or vibratory movement of the proper rate; bearing in mind however, that they can only exist as vibratory motions by favor of such of the *unknown* forces as are involved in the property of elasticity or the like, and it was his purpose this evening to demonstrate this fact experimentally, and to show what were the exact relations which these forces bore to each other and to the *unknown forces* first named, which might be regarded as the great prime motors of nature, or rather as the expressions of that present and active will of the Creator, in which the universe, as well as man lives, and moves, and has its being.

The speaker then proceeded to show some of the ways in which a mere mechanical movement, such as that of a falling weight or flying ball could be changed into a vibratory motion; as, for example, with a ball and elastic cord, a pendulum, or a vibrating rod, and then came the demonstration that from exactly such a conversion of motions would come sound, heat, and light.

In the case of sound, he first showed that a succession of rapid blows from the teeth of a wheel on a card would make the card vibrate, and then by varying the rate of these blows he developed such a succession of musical notes as enabled him to run the gamut, to play a tune, and to imitate the cries of animals.

He then showed how the action of a violin bow resembled the successive blows or catching of the toothed wheel, and further to illustrate the fact that such an action did, in truth, produce vibrations, he employed an experiment of singular beauty, which he had recently devised. He placed a large glass plate in the "vertical lantern," and covered it with water, then as a violin bow was drawn across the edge of the plate, the screen was covered by a beautiful pattern of waves communicated by the plate to the water. These waves changed in size with every change in the note which the plate emitted. This experiment was loudly applauded.

The lecturer then proceeded to show that the relations of motion and sound were reciprocal.

An ivory ball was suspended so as to rest against the end of a brass rod firmly clamped. Letting the ball fall and strike the rod, the latter emitted a shrill musical sound. If, now, the fingers were gently drawn along the rod, it was caused to emit the same note, and as long as it sounded the ivory ball was driven again and again away from it to the height of ten or more inches. This experiment also was loudly applauded.

In the next place, the Professor showed that friction of rubbing surfaces was identical in character with the action of the toothed wheel and violin bow, and thus, like them, must develop vibration; and he then proceeded by pressing a block of wood against a brass tube, made to rotate, so to heat water poured into it, that a cork was driven out with a loud explosion by the steam generated.

With a wheel made to move yet faster in a larger apparatus, the more rapid light vibrations were reached, and shown in a shower of sparks driven from a bar of steel held against it. Thus, it is shown that sound, heat, and light are mere mechanical motions.

But these vibrations may also be developed directly by other forces without first becoming sensible as mechanical movements.

Thus the clash of uniting atoms drawn together by chemical affinity, causes in many instances all three sort of vibrations, as in the oxy-hydrogen blow-pipe. The roar of the flame was then noticed, and its heat and light illustrated by melting and burning rods of iron and steel with dazzling scintillations, which seemed to cover the stage with a cataract of sparks.

The production of light by electricity was illustrated by a few blinding flashes from the great induction coil, and by the various colors developed in the rarified gas contained in some unusually large Geissler tubes. A number of these tubes arranged so as to form the word "Yale" in letters four feet high elicited very marked tokens of approbation.

The manner in which wave motions were conveyed from place to place was then illustrated by several very beautiful experiments in the "vertical lantern," in which waves with their motions of progression and reflection were shown upon the screen.

As a further explanation of the manner in which the light force travels from place to place the lecturer made the following illustration.

"I lately stood in a conservatory containing a large tank or pool of water for aquatic plants. In the centre played a little fountain to replenish and refresh the pool. Plash by plash, the tiny jet threw its tribute of drops into the still water, and rings of waves ran outward from this centre of disturbance. Here and there these waves encountered the stem of some lotus flower or leaf and communicated to it a motion by which it became a new centre of vibratory disturbance, while at other points the waves striking on the resisting surface of rockwork or of rigid leaf were thrown back again in a system of reflected ripples, and the spaces thus protected were left in undisturbed repose."

At this moment an intense lime light filling the entire building with its effulgence was exposed and the speaker continued:

"Now and here, we have a reproduction of this condition. This source of light-waves represents the fountain of the greenhouse pool. From it expanding rings of wave-motion are running ever outward and rippling through the hall. Here and there these waves encoun-

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ter resisting surfaces and are thrown back or reflected in new directions, and behind the columns or like objects are spaces of *still water* which we call shadows, and if one point more were needed to complete the comparison I seem to find it, when looking round me I see no unapt representatives of the flowers of the conservatory.

The reflection of light waves was then farther illustrated by the illuminated fountain, in which a jet of water is made the path of a beam of light, so that it seems to be a stream of *liquid fire* pouring from the side of a tank and breaking out as a shower of diamond or ruby drops from a vase in which the stream is received. The effect of light vibrations on the eye was then noticed and its pecularities illustrated by two series of experiments, one with disks similar to the zoetrope in pattern but illuminated with sparks from the coil, and the other with Geissler tubes attached to a rotating disk and producing beautiful effects as of scintillating electric jewelry. With these illustrations the lecture closed.

LESSONS FROM HARVARD.

Those who are conversant with college affairs and who take any interest in the progress of the higher education are well aware that Harvard University is at present making a bold series of experiments in reference to certain of the problems which are now vexing the best educational thought of the country. Unlike some of the more conservative institutions, and unwilling to let these problems remain longer without an attempt at solution, Harvard is bravely seeking for a practical solution—which is the only one that can be satisfactory—and is vigorously plunging into new modes of procedure in education, and testing new theories with a determination and fullness of detail that renders her action worthy of the most careful attention. Few institutions could afford to try these experiments on such a scale as Harvard, and few possess the requisite boldness, and in view of the traditional conservatism which besets institutions of the antiquity and size of Harvard, her action is worthy of the more honor. But while all cannot test theories with so lavish a hand, all may gather lessons from the experiments which are being made. It would be a mistake, however, to suppose that the problems are yet entirely solved. Some, perhaps most of them, are in process of solution, and the most that we can hope to do, at present, is to gather, here a suggestion and there a fact which may serve as a decision of some minor point, or as an indication of the final solution.

The source from which we derive our information in reference to the questions, to which we have referred, is the recent report of the committees of the Board of Overseers of Harvard College to that body. We may premise by saying that the Overseers are a body elected by the alumni to serve five years, and who have a general oversight of the college, a negative on all appointments, and who must approve all the statutes. This body annually appoint a number of sub-committees whose duties are to examine the several departments of the college, and report on the same. These reports are the document above referred to. There were seven of these committees appointed last year, and to each was given a definite field. The names which appear in them are guarantees of the value of these reports. The whole document is so lengthy and so full of interesting points that we cannot hope to review them all, but must be content to touch upon a few of the most important and reserve the remainder for future discussion.

And first in reference to examinations. These in the minds of the committees deserve careful attention, both because they show how far the students have advanced and especially, because they seem to be taking the place of recitations in determining proficiency and relative rank. It is noted that many of the instructors do not now mark recitations but decide upon the student's standing from his examination, which takes place fortnightly or monthly as well as yearly. This the committee say, they do not regard as objectionable, and add; "on the contrary, whatever tends to lessen the subjection once existing to the marking system, calls for frank approbation." But on the other hand, it is observed as a result of this method that a larger number of the students than formerly, reported themselves unprepared in recitation, and the examination books showed more palpable signs of cramming, which, the committee consider "a mode of preparation so fraught with wretched consequences, both in and out of college, as to require all the checks which can be put upon it." To avoid this evil it is recommended that examinations be held without previous notification, and some sensible arguments are advanced in favor of such a course. In reference to the bad appearance of examination papers and their poor literary character, it is recommended that in making out the mark these things be taken into the account and that notice to that effect be given to the students. We conclude then, from what has been said upon this point, that in reference to determination of standing by frequent examinations instead of marking each recitation, the experience of Harvard is,-that while it does away in a great measure with the subjection to marks about which so much has been said; it introduces another evil viz, want of preparation for each lesson and consequent cramming to pass the examinations. Whether the suggestion of the committee in regard to conducting examinations without previous warning will do away with this evil remains to be seen.

In reference to the working of the elective system the reports give many facts and many hints. In the philosophical studies including Moral Philosophy, and Civil Polity, Christian Morals, Political Economy, General and Constitutional History, etc., the favorite study with the seniors was Political Economy, and the next Modern History and International Law; while with the juniors, Moral Philosophy was most generally selected. With regard to Greek and Latin the reports say, "The statistics of the year show that the number of those electing Greek and Latin, diminishes with each year of the course." But although the number grows less each year the quality of the study improves. The seniors do better than the juniors and the juniors better than the sophomores. This is regarded by the committee as going "far toward proving the soundness of the elective system, especially when extended over several successive years." The fact that those only, who are earnest in their studies, pursue them through a course of years, and at the same time, attain excellence in them is regarded as a better state of things than compulsory prosecution of studies which are distasteful.

But it is worthy of notice that later in the report it is affirmed that "the elective system depends to a great extent upon its not being purely elective, or, in other words, upon its being regulated by the counsels of judicious teachers and judicious parents. To allow a student at the outset, or any other part of his course, to choose his studies, is, in nine cases out of ten, to allow him to run the risk of ruining his academic education." This extract puts in good form what every advocate of the elective system, however ardent, must know to be true, and places perhaps the best limit upon entire freedom of choice in reference to studies that can be found. With this modification we think it safe to conclude that the judgment of Harvard is thus far favorable to the elective system.

There is one other point connected with it which is of considerable interest. The elective system at Harvard begins with sophomore year although from that time all studies are not elective. Some are required in every year of the course. But some of the elective studies are open alike to all the classes. Thus, if a sophomore does not desire to take an elective study offered to his class, he may wait a year and take it with the next class below; and, on the other hand, he may, if qualified, pursue a study with a higher class. So that the students in any study may all belong to one class, or may be drawn from three. The bearing of this arrangement upon the class system as it now exists in American colleges is obvious, and how far it will tend to overthrow that system and the accompanying class feeling, is a question for whose answer we must still look.

The reports of the several committees are full of suggestions, but our space will not permit us to dilate upon them. We simply extract one or two. In reference to English studies, the committee regret that elocution has been dropped and recommend that it be restored. They affirm, that not care enough is taken to develop a good English style, and recommend "that the number of themes required from all the students be gradually, if not instantly, increased, until every undergraduate has none but himself to blame for want of proficiency in English style." A greater attention to psycholygical studies is also recommended. In the matter of acquiring foreign languages it is affirmed that the aim in college is to render the student capable of reading them simply, and for this purpose, American teachers are regarded better than foreign ones. Satisfaction in the improvement which has taken place in the discipline of the college during the last quarter of a century, is expressed, and hazing is condemned, with the recommendation that the civil law be invoked to suppress it, if necessary. In the matter of health, irregular exercise and sleep, too much tobacco, bad air in rooms, and the practices incident to joining societies are cited as causes which tend to impair it; but it is affirmed that the health of the institution as a whole was never better. Boating is approved but racing is regarded as more questionable. Cramming is regarded as a cause of serious injury to the health. And finally, the provision of honors is hailed "as one that promises to raise the standard and quicken the zeal of every student desiring to improve as well as to distinguish himself in college."

LITERARY.

We have received the first number of "*The Teacher's Record*, a quarterly Journal of General Educational Intelligence," published by J. B. Lippincott & Co., Philadelphia. It is an eight page sheet, somewhat larger than *Scribner's Monthly*, and contains a good amount of information interesting to the class it aims to reach.

Hall's Journal of Health for 1872, will be sent to all clergymen and school teachers for $1.00, fifty cents less than the regular price. An arrangement has also been made by which those who send $4.00. will receive the *Journal*, and either the *Atlantic*, *Galaxy*, *Harper's Weekly*, or *Monthly*, or *Bazar*, *Every Saturday*, *Appleton's*, the *Overland*, or *Frank Leslie's Weekly or Ladies Journal*.

The *Trade Circular*, the Official Organ of the Publisher's Board of Trade, enters upon its fourth year as a *weekly* subscription paper. Its design will be to serve as a means of frequent communication between publishers and buyers, give announcements of new works to be issued, etc., and in general to present each week a survey of the field of general publishing and bookselling. The change to a weekly seem to be a very desirable one.

Hurd and Houghton have just published a new edition, with corrections, of Greene's "Historical View of the American Revolution." The work was originally issued in 1865, and it will be remembered embodies the substance of the lectures delivered by him before the Lowell Institute in 1863. We notice that the same firm have admitted Mr. Horace E. Scudder and Mr. George H. Mifflin into partnership with them, to date from January 1st, 1872.

The *Bowdoin Scientific Review*, an excellent fortnightly journal of current science, edited by Professors Brackett and Goodale of Bowdoin College, is rapidly approaching the completion of its second volume. We commend it to

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the notice of our readers, especially to those interested in scientific matters, as the best periodical of the kind in our country. It contains the cream of foreign literature, taking in science something the position of Littell in literature, and yet having much valuable original matter. The last number contains Faye's paper on the Theory of Comets; B. W. Richardson's paper on the Science and Art of Embalming the Dead; and Prof. Huxley's lecture on Psychoses delivered at the London Institution. The Review is furnished for two dollars a year.

The *School Laboratory of Physical Science*, a quarterly publication, edited by Prof. Hinrichs of Iowa City, has completed its first volume. It aims to present the claims of experimental physics to a place in instruction, and gives the results of his own teaching, as an argument therefor. In an appended notice, he says:

"The first volume of the *School Laboratory* does, we confidently believe, fulfill the promises made by the Editor when issuing the first number. The *School Laboratory* has been warmly welcomed by the Scientific Press, of this country and of Europe. It has its regular subscribers scattered between Oxford and Vienna in the east, and Yokohama in the west.

But the density of the subscriptions on this wide field is perfectly nebulous. Unless this density increases to *three* times what it is at present the *School Laboratory* will have to be discontinued at the close of 1872.

Arabesques.*—Of the many holiday books that our columns have not permitted us to notice, there has been none more attractive than this. It has been styled "Hours with the Supernatural"—for it is wholly an imaginative work written in the oriental style on the pattern of "Undine" or that most wonderful flash of genius, Beckwith's "Vathesk," and that it is worthy of admission to that family of literature is sufficient praise.

The publishers appreciating its worth have sent it out on tinted paper with clear type and red line border. There are four tales, each illustrated by a classic profile of its principal character, and under all this choice work of mind and matter is wrought a lesson of daily life, which the reader is left to puzzle out at will. No careless reader will solve the weird imagery that "arabesques" its truths.

For the past generation our lighter literature has been for a large part either very practical or very trashy; but there now seems to be a strong tendency to combine the Beautiful in the imagination with the earnestness of the Good and True in real life. On this ground the author has entered with great success. Its style is terse—no long sentences to weary, or heavy morals to explain the lessons. You are carried along on the highest plain of fancy and only when you have finished and reflected, do the lessons of earnest purpose, unflinching integrity, filial devotion, and faithfulness to the right come home to you.

The "ruby ring" of the young knight Walter, does not, like Aladdin's lamp, shine forth to lead to unknown wealth and luxury, but to the oppressed and captive; and the rewards of his travels and dangers are the freeing of prisoners, bringing to life the slain, and gathering to their homes the scattered loved ones. This done, Monari takes from him the ring. As the end is accomplished the ways and means are withdrawn.

Each one of the stories is independent—yet each is equally charming. One cannot find a greater refreshment than in its pages for either mental labor or nervous strain from daily cares. It is a book for enjoyment by the refined and scholarly, and not too abstruse to be entertaining for the young.

**Arabesques.* By Mrs. Richard Greenough, author of "Lady Tremyss; or Treason at Home." Boston: Roberts Brothers. 1872.

Woman's Worth and Worthlessness.*—Gail Hamilton is at home on many of the topics now interesting a reading public. She has ideas of her own on these subjects and evidently prefers them to any she might coin from another mint. Always reasonable in her speculations, often partial in her views, she is sometimes radical and reformatory in her theories. The views she takes of society are more truthful than flattering. The evils she sees and exposes are not superficial, but radical; too radical to be eliminated by utopian speculations, or cured by the popular vote, or by the specious platform of revolutionary conventions.

Female Suffrage, she does not regard as the divinely-appointed panacea for all the ills to which flesh is heir. Much less does she believe that the rabid cry of "Woman's Rights" is "the voice of one crying in the wilderness" to usher in the millenium. The so called *Rights* supposed to be withheld from woman, in her estimation, are more than counterbalanced by the evils under which she voluntarily suffers. A reform which leaves these evils untouched, is more specious than beneficial, and, if the so called reform increase or give larger scope to these evils, it is a progress detrimental to the best interests of society.

"Gail" has but little confidence in recent *woman's rights movements*. If she had written her book since the latest demonstration of that movement we think she would have avowed decided dissent, alike to the creed and the measures of the self-constituted leaders in this movement. Never had a cause more reason to pray to be delivered from its friends, than this same woman's rights or female suffrage movement. With leaders occupying such a position before the community, that men and women of self-respect who favor the reform are under the necessity of defining their position, lest they be classed with those whose sentiments and practices are a reproach to the civilization of the Nineteenth Century, the reform will make but slow progress in a community unwontably conservative. Fortunately the American people hold the sanctity of their household gods dearer to them than the prestige or display of any political rights.

The lessons which this book teach are practical. The author brings to view evils now existing, which remaining would render null and void any increase of political social or educational privileges. She more than intimates the apprehension that the granting the request of radical conventions and organizations for social reform would augment rather than diminish these evils. The Book contains wholesome sentiments alike for the advocate and the opponents of the recently attempted social reform. It will well repay a perusal. The style of print and binding makes it an appropriate volume for the parlor table.

The Earth.*—Mr. Elisée Reclus, the author of this well printed and splendidly illustrated volume, is a prominent French savant. He has spent, as the publisher informs us, fifteen year's in careful study, travel and research in the production of this great work, and as he combines in a rare degree French lucidity of style with sound learning, he has given us by far the best treatise on Physical Geography, now extant in either the French or the English languages. In four parts, which comprize eighty-six chapters, Mr. Reclus describes and elaborately discusses the history and the phenomena of the globe.

The first part treats of the earth as a planet, of its form, dimensions and movements, and gives a brief resumé of the various theories regarding its formation. The author does not unreservedly accept the hypothesis of a Place, according to which the earth was at first a gaseous globe, which assumed its present form after long ages of cooling and contracting. Nor is he less cautious in assuming an igneous fluid interior, on the thin firm crust of which we live; but rather accepts the views of Lyell and other modern geologists.

The second part, the "*Land*," is in many respects the most interesting of the volume. We find in it a broad statement of those contrasts and analogies between the continents, which were first pointed out by Bacon, Forster, Ritter and others. The author assumes three couples of peninsulas—North and South America; Europe and Africa; Asia and Australia. He chooses America as the type, because its line of upheaval forms a tangent to the curve of shores, which bound the Pacific Ocean. It is composed of two triangles, each pointing its apex towards the south, and linked together by a narrow isthmus. These two halves of America form two distinct continents, and yet they show so great a similarity of structure, that they are evidently the counterparts of one another.

In the old world Africa clearly follows the model of South America. Both are alike in their triangular mass, with coasts slightly indented. Europe resembles North America in the great number of its peninsulas and indentations. The author infers from the similarity of the flora and fauna of northern Africa and southern Europe, that both continents were formerly connected by an isthmus in the same way as the two America's are connected at present. He says, the ancients were not ignorant that the entrance to the Mediterranean had once been closed, since they attributed to Hercules the honor of having opened the gate between the two seas. But this myth can hardly be adduced in support of the hypothesis. It is at best the cosmogonic legend of a youthful nation, certainly not a proof, that its inventor was an eye-witness of the geological prowess.

Asia and Australia constitute the third pair of continents, but their form very imperfectly reproduces the American type; and although they are not directly united by a continuous isthmus, yet the Sunda Islands like "piles of a broken bridge" stretch across the sea between the two continents. As regards Australia, both by its regular form and the entire absence of peninsulas, it evidently reminds us of the two other parts of the world, (South America and Africa,) which push their way far into the Southern Ocean.

The following passage is a good example of Mr. R's graphic style:

"The principal feature in the relief of the Old World is the enormous elevation of the land near the center of Asia, at the intersection of the lofty chains of the Hindoo Kush, in that region of grandeur, to which the name of "the roof of the world" has been justly given. This elevated spot, round which radiate the Himalaya, the Karakorum, the Kuen-Lun, the Thian Shan, the Soliman Dagh, and other chains of mountains, is, in fact, the point of the earth at which the two continental axes cross one another, one tending from the north to the south, the other from the northwest to the northeast, parallel to the outline of the Pacific. At this meeting point the two terrestrial waves overlap one another, just as two billows coming together in the open sea from two different points of the horizon. There at the intervention of the axes, stands the real apex of the earth, the orographical center of the continents; there, too, we find, was the center of dispersion of the Aryan nations. By a remarkable contrast, at the exact antipodes of this region of elevated plains and lofty mountains, we find those broad tracts of the Pacific, which are most destitute of inlands; and there, too, are probably situated the deepest profundities of the ocean."

The contrast between South America and Africa, is traced thus:

"Several geographers, including Humboldt himself, have thought, that Africa and South America had their corresponding coasts set in the same direction. But this is not the case; these two divisions present the same mutual contrast as the two hands of a man. There is symmetry, but not equality. In fact the highest plateaus and the loftiest mountains in Africa rise at the east side of this continent, while the chain of the Andes commands the western shores of South America. The most important African rivers—the Orange, the Congo, the Niger, and even the Nile—empty their waters into the Atlantic, into which are also discharged the immense rivers of the Columbian continent—the La Plata, the Amazon, the Orinoco and the Magdalena. In the same way the Saharan Deserts, which tend towards the Atlantic Ocean, answer to the *llanos* of Venezuela, and the *pampas* of the La Plata; the latter being likewise inclined toward the same oceanic basin. Finally the two isthmuses of Suez and Panama, each at the angle of their respective continents, occupy a corresponding though opposite position.

** "Woman's Worth and Worthlessness"*—The complement to "A New Atmosphere." by Gail Hamilton—New York; Harper & Brothers.

** The Earth*, a descriptive history of the Phenomena of the Life of the Globe by Elisée Reclus; translated by B. B. Woodward, M.A. Illustrated by two hundred and thirty maps inserted in the text and twenty-three page-maps, printed in colors. N. York, Harper & Bro's. 1871.

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It will be seen, that Reclus and Humboldt arrive at different conclusions. Humboldt, in pointing out the analogy between the two continents, considered only their horizontal forms; Reclus in showing the contrast took notice only of the vertical development. But who will decide which is the right view and which the wrong? Questions of this nature will always remain open.

The chapters on mountains, valleys, and passes are replete with interest and with their many graphic descriptions cannot fail to impress even a superficial reader. They are illustrated by a lithographic map of the Alps and some remarkably well executed topographical sketches, cut in wood. Of the Alps the author says, that they appear to be a dreadful accumulation of disorder, and only a long course of study or personal survey will enable any one to become acquainted with the general arrangement of their ridges. It may then be seen, that the ensemeble of these mountains is formed by separate groups, throwing out branches in every direction, like the rays of a star. Whilst the Jura, the Appalachians and the mountain systems belonging to the same type, are composed of parallel chains, the Alps are formed by the juxtaposition of many groups with divergent chains radiating from them. The Swiss geologist, Desor, takes as the basis of his classifications the various nuclei of granite and protogene, which have pierced through the more recent rocks, and divide the Alps into fifty distinct groups. But this number must be considerably reduced, if those, which are linked to one another by continuous ridges of great elevation are looked upon as forming parts of the same chain.

The third part of the book treats of the "*Circulation of Water*,"—including glaciers and avalanches, springs, rivers and lakes. The reader will find nearly all the theories, with which geologists have endeavored to explain their phenomena; and in addition, many new ones, which are original with Mr. Reclus. Some of these, however, cannot be adopted without reserve. Thus, when the author ascribes the origin of the two forms of river-outlets—estuaries and deltas—to the influence of the tides he is hardly borne out by the facts. The ebb-tide, it is said, continuously carries out into the sea the silt of the river and thus gives its mouth the form of a gulf-like estuary. But the Inflowing flood necessarily counter-balances the outflowing ebb, and should take back into the river, what the latter has taken out. If Mr. Relcus' explanation were correct, we should find, that rivers emptying into seas with strong tides had estuaries, and rivers emptying into seas without tides, deltas. But the Indus and the Ganges have built up enormous deltas, although the tides acting on their outlets are very strong. In the La Plata the tides do not act because there the crests and valleys of two different flood waves neutralize each other; yet it has an immense estuary measuring over 150 miles in width; while the Orinoco with powerful tides has an extensive delta.

The "*Subterranean Forces*" occupy the fourth and last part of the volume. The author holds, that the time, when a satisfactory theory can be given of volcanoes and earthquakes, has not yet arrived. "If," says he, ".some day, we are to succeed in pointing out exactly how volcanoes obey the same laws, which govern the exterior of the globe, the first requisite is to observe with the greatest care all the incidents of volcanic origin. When all the premonitory signs and all the products of eruptions shall have been perfectly ascertained, then science will be on the point of penetrating into the secrets of the subterranean abysses where these marvelous convulsions are being prepared." This absence of a general hypothesis,—for which the reader will rather thank than blame the author—is amply counter-balanced by a very full array of facts and very graphic descriptions of the great earthquakes and eruptions, which have taken place within historic times.

We heartily recommend the book as one that is accurate and scientific, and at the same time, popular in the best sense of the term. It treats of a branch of knowledge, which has thus far been sadly neglected in our country. A knowledge of our earth is by no means a common acquisition even among our better educated classes. And yet next to the branches of a so-called common English education, there is none as indispensible to persons who lay any claim to culture as this "General Geography." Without it, history and even the rise and development of our own country, must in a measure remain incomprehensible. A man may be very learned in various fields, and yet without some knowledge of the globe, which we inhabit, he will entertain many erroneous views, little better than vulgar superstitions.

Mr. Reclus' work supplants those older treatises on Physical Geography of Hershell, Mrs. Sommerville, Ansted and others, which are chiefly remarkable as collections of dry details. In comprehensive generalizations it is equalled,—if not surpassed—by but one performance in the English language—the first chapter of Prof. J. D. Dana's Manual of Geology. But this masterly essay of 37 pages pre-supposes a considerable amount of geographical information, while Mr. Reclus' "Earth" may be read with profit and pleasure by persons of ordinary intelligence.

The translator, B. B. Woodward, has done his task well on the whole, though here and there we meet with a sentence, which might advantageously have been deprived of its French redundancy. Nor has he been very careful in the spelling of foreign names. Thus "Kouen-Lun," instead of *Kuen-Lun*; "Herzogovina," instead of *Herzegovina*; "Thian-Chan," instead of *Thian-Shan*; "Hindoo-Kuch," instead of *Hindoo Kush*, are not simple misprints.

The 24 full-page maps, with the mountains in brown and the waters in blue, add very materially to the value of the book. These as well as the 230 small sketches have obviously been designed by a skilful topographer. The delineation of mountains and other inequalities of surface is such as we do not see in the miserable daubs of Colton, Mitchell and Johnson.

COLLEGE RECORD.

Hobart College, (Geneva, N. Y.)—The Second Term began on Jan. 11th, with the Rev. Dr. Van Rensselaer, who has filled the chair of Christian Ethics during the last year, as President. A better choice could hardly have been made, as Dr. Van Rensselaer is not only well known elsewhere for his learning and ability but, what is much more important, he is intimately acquainted with the students, the situation, and the wants of our college. Moreover, the success which has attended his efforts as President of De Veaux College and as Professor of the Department he has presided over hitherto augurs well for the future of both students and college. Fifty years have passed away, and during that time our College has done great service in imparting and at all times maintaining a high standard of scholarship. Yet, brighter prospects seem to be before us as we begin the last half of our first century.

The prospect of having a boat-house and boats ready during the coming spring, for which we have such an admirable situation and which we have needed so long, is now almost certain, and other means, by which gymnastic exercises can be indulged in to a greater extent than hitherto, will probably be perfected in due time.

Our Senior Professor, Rev. Dr. Metcalf, although he still remains at Aiken, S. C., we are pleased to hear is improved in health, and there are hopes he may be strong enough to be with us at the beginning of next term. The Rev. Dr. Rankin, our late President, returns to his duties as Rector of St. Peter's Church, in this place. Although he is no longer directly connected with the college, his interest in her welfare cannot be doubted, nor is the college forgetful of the efforts which he put forth in her behalf, while President.

During the last Term, our Annual, the "Echo of the Seneca," was issued, as is the custom, by the members of the Junior Class. It is a pamphlet of fifty pages and contains the college and class organizations, secret and literary societies, etc.

University of Pennsylvania (Philadelphia, Penn.)—This institution is now erecting a magnificent building at Thirty-sixth and Locust streets. It is to be three stories high besides the basement, with turrets on each end. The material is serpentine, trimmed with light colored Ohio sandstone, and gives the building an imposing appearance. It is designed to have the academical department occupy one end of the building and the scientific the other, and every exertion is being made to fit up both departments to the highest pitch of excellence. Two hundred thousand dollars have recently been subscribed in Philadelphia toward finishing and equipping the building. It is proposed to adorn the chapel with a memorial window in honor of the founder of the college of Philadelphia, Dr. Franklin, and for this purpose a circular has been issued to the alumni asking for contributions. The following is a description of the window:

The window is of Gothic form, twenty-five feet high by eleven feet wide having in the arch three compartments. In the upper one it is proposed to place a copy of the portrait of Dr. Franklin, by Martin. As it is designed also to show the changes which have taken place since the first charter was granted in 1755, the coat of arms of the Penn family, by whom that charter was granted will be placed in one of the lateral compartments, and in the other the arms of the State of Pennsylvania, which granted the present charter in 1791. The lower portion of the window is divided by mullions into five panels. On the center panel will be inscribed the famous line of Turgot: *Eripuit cœlo fulmen sceptrumque tyrannis*, and underneath a civic crown. On the panels on one side of the center will be placed pictures of the Old Academy in Fourth street; of the Printing Press used by Dr. Franklin in London; and of the first discovery of Electricity. On the other side a picture of the present University; of the last improvement in the Printing Press; and of the newest Telegraphic Machine. The portion of the window not occupied by the paintings, will be of the richest stained glass, in which appropriate emblems will be worked.

Amherst College, (Amherst, Mass.)—The new departure from the antiquated educational ideas has at last made an impression upon this conservative stronghold, and some of the more recent additions to the corps of instructors have brought with them the latest results and methods of German training. The department of the Modern Languages receives increased attention from year to year and, though still far removed from a perfect standard, gives a better course than the majority of colleges. But it is in the scientific branches that the greatest improvement is observed. The study of chemistry is commenced at the beginning of sophomore year and the students are required to enter the laboratory and each perform the experiments illustrative of the science as demonstrated in Barker's Hand Book. The principles of the science are sought after, and brought before the attention of all, and mere book knowledge is considered of little worth. Under Prof. E. P. Harris, an enthusiasm is kindled and the once most disliked, has now become the most interesting and profitable department in college.

For many years Amherst has been renowned for her Geological and Mineralogical Cabinets while her collections in other departments are by no means unimportant. Since the death of Pres. Hitchcock, the chair of Geology has been vacant and no activity manifested to put to a practical and scientific use the treasures of her cabinets. But recently a change has been effected and the friends of the New Education may well feel encouraged to see the energy and perseverance displayed by the new Instructor, Mr. B. K. Emerson, to bring up the department to its former excellence. Mr. Emerson, a graduate of Göttingen, brings to his

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position the advanced culture of German training and like Prof. Harris, is a firm believer that science must be taught from something besides books. In Mineralogy the student is given a collection of minerals to examine in connection with the description of the book and every two or three weeks an examination is required upon cases of minerals seen for the first time. This method educates the eye as well as the memory and the results are said to be very satisfactory. Zoölogy as far as possible is taught in the same manner, and both required as preliminary to the study of Geology.

The Seniors have begun to attend a course of lectures, relating to the Fine Arts. Prof. Snell opened the series Monday morning, with a lecture on Architecture. Mental Science, Evidences of Christianity, and Literature fill out the remainder of the time. The Juniors are engaged in Qualitative Chemical Analysis. Tacitus, German, Italian and Natural Philosophy. Sophomores and Freshmen are dosed with the Classics and Mathematics *ad nauseam*. A.

Columbian University, (Washington, D. C.)—We have received the addresses delivered at the inauguration of James C. Welling, LL.D., as president of this institution, on Monday evening, November 6, 1871. The inaugural address of the incoming president is a discussion of "The Fundamental Elements of Intellectual Education," and defends the right of the classics, not less than general language and literature, mathematics, the physical sciences, and speculative philosophy, to be regarded as these fundamental elements. We quote the following from the closing part of the address, in reference to the advantages of situation which this college enjoys:

"Our College, from the mere felicity of its situation at this metropolitan center, where society is broad, liberal, and cultured, has many advantages. The learning of the present day, it is important to remark, no longer courts the shade of the cloister, but walks abroad along the highways of empire. Behold how, but a few weeks ago, the hand of Bismark turned from protocols and papers of state to indite an autograph letter to a citizen of Italy, the Count Trivulzio, begging in behalf of Professor Mommsen, the loan of a few old Latin inscriptions which the Professor needed to clear up some disputed question in the Roman history he is writing, not for Prussian scholars alone, but for the whole literary world. There is nothing esoteric in the learning of our day. And what advantages are ours, both for gaining and diffusing the blessings of highest culture! For here at our very doors, we have the Smithsonian Institution, perpetually working, under the guidance of its illustrious Secretary, on the boundaries of knowledge in all departments, thus literally fullfilling the will of its founder and exemplifying the highest function of a university, by increasing and diffusing knowledge among men. And here is the National Library of Congress, with its well-filled alcoves, open alike to teachers and scholars for purposes of literary and scientific research; and here, for the study of Technology, are the accumulated fruits of American intentive genius stored in the Patent Office; and here, for the progressive scientific study of Astronomy, is the National Observatory; and here is that no less learned than useful school of practical geometers connected with the Coast Survey; and here are the gardens which, under the keeping of the Agricultural Department, invite to the study of Botany, not in dry herbaria and in dryer tomes, but amid flowery walks through which Shenstone would have loved to ramble by the side of Linnæus or Hasselquist. And here for the student of law are the highest seats of our American Themis, as here, for the votaries of the healing art, are the priceless treasures of the Medical Museum, without any rival in the world among the institutions of its kind; and here, by the munificence of him who stands at the head of the governing Board of our College, is the Corcoran Gallery of the Fine arts, to keep alive the love of beauty in the soul of man."

Yale College, (New Haven, Conn.,)—The news at Yale this week presents nothing remarkable, but there are several matters of interest.

HENRY WARD BEECHER'S LECTURES

We are requested to state that the course of lectures on the subject of "Preaching" by Henry Ward Beecher, which will commence on Wednesday, the 24th at 4 P.M., are not a formal, but colloquial and purely professional course, and that he does not himself desire a large and general audience; therefore the Marquand Chapel has been selected, and all the middle seats will be reserved for the Theological Students and ministers of the city and vicinity. The remaining seats will be open to others who are interested to hear Mr. Beecher on this theme.

YALE SCHOOL OF THE FINE ARTS.

On Friday evening, January 26th, Dr. Rimmer of Boston, will deliver a lecture in the Art Gallery upon the Anatomy of the Human Form. It is hardly necessary to refer to the distinguished success of Dr. Rimmer's lectures, both in Boston and New York,(at which latter place he has lectured in the National Academy of Design, and at the Cooper Institute, to large and deeply interested audiences.) His lectures are not strictly technical; they have a wide and popular interest. The facility and precision with which he draws his illustrations upon the black-board, is simply marvellous. Not only in its direct bearing upon art, but in relation to some of the Scientific theories of the day, this lecture upon Comparative Anatomy (which it is hoped will be extended to a course of six lectures) will be found to be of great interest to the college and the public. Tickets may be had at the Art Gallery, at Cutler's and at Skinner & Sperry's.

The second lecture in the course on "Greek Sculpture" was delivered in the Art Gallery, last Monday evening. A screen had been put up in the north end of the South Gallery and upon this were projected by means of a stereopticon views of different works of art, and simultaneously with the projections, descriptions and criticisms were delivered by Professor Eaton. The audience nearly filled the gallery and the lecture was listened to with the closest attention.

MISCELLANEOUS MATTERS.

Professor Marsh and scientific party from Yale College returned from California on the 14th via Panama. The expedition was in all respects successful, and we hope in a future number to give some of the scientific results.

The second in the course of Berkeley sermons now being given in Trinity Church, was delivered last Sunday evening by Rev. Phillips Brooks, of Boston. The house was filled to overflowing, a noticeably large number of students being present. A double quartette from the college choir occupied the choir gallery and acquitted themselves very creditably. The subject of the discourse was "Personal Influence" and we have rarely heard a sermon more lucid or more masterly in its treatment of its theme. The next sermon will be delivered Sunday evening, January 21st, by Rev. J. H. Rylance, D.D., of New York City.

The Class of '73, held a class meeting, Wednesday last, and selected three of their *Lit.* editors. The gentlemen chosen were William Beebe, Warsaw, N. Y.; W. A. Houghton, Holliston, Mass.; and S. O. Prentice, of North Stonington, Conn. Two others are yet to be chosen.

The treasurer of the Boat Club has made a report which extends from September 22d, 1871 to January 14th, 1872, from which we learn that the Saltonstall races of last fall were a pecuniary loss to the amount of $48,05, and that the receipts from various sources during the period covered by the report have exceeded the expenditures by $92.79, which amount is now in the treasury.

Notman begins to photograph the seniors soon. He has taken the little gallery on the corner of High and Elm streets formerly occupied by Prescott and White. Notman has made arrangements by which he will furnish the albums for the class pictures at cost, and deliver the photographs all mounted in these albums without extra charge.

The University Nine are to exercise in the gymnasium during the last six weeks or so, of the present term, perparatory to the approaching base ball season.

There are said to be at present, one hundred and twenty students boarding at the "Commons."

GLEANINGS.

PERSONAL.

— Prof. John Johnson, of Wesleyan University, at Middletown, Ct., has been appointed State chemist.

— It is rumored that Dr. Daniel Steele intends to leave the Vice Presidency of Syracuse University, and return to the pastoral work.

It is reported that the celebrated chemist, Liebig, is about to withdraw from the University of Munich, and take up his residence at Heidelberg.

— Miss Haskell, head assistant of the Northampton High School in Massachusetts, has received a call to Vassar College at a salary of $1,000 a year.

— Prof. Wm. N. Rice, of Wesleyan University, has been chosen corresponding secretary of the Middletown Scientific Association, for the ensuing year.

— Prof. Sidney A. Norton, of the Miami Medical College, who has been in Europe for a year past has returned and resumed his duties in that institution.

— The rumored intention of Dr. Dashiel, to resign the presidency of Dickinson College, to accept the pastorate of a church in Newark, proves to be incorrect.

— Mr. Goldwin Smith has taken up his residence at Toronto, and, in addition to spending six weeks each year at Cornell University, intends to edit a new Canadian magazine.

— Rev. O. L. Smith, D.D., has been elected President of Emory College, at Oxford, Ga., in place of Luther M. Smith, D.D. From the same institution Prof. J. O. A. Clark has retired.

— Professor Bracchiforte, of Milan, has translated portions of the sermons of Robert. Collyer, Dr. Vance Smith, and Rev. J. Martineau into Italian, in the interest of Unitarianism.

— Professor Henry J. Clark of the Kentucky University, and a student for several years with Agassiz, has accepted the professorship of veterinary science at the Amherst Agricultural College.

— Rev. Dr. Malcolm Douglass of Windsor, Vermont, has formally accepted the presidency of Norwich University at Northfield, Vt., and well begin his duties with the beginning of next term on the 25th of Jan.

— Mr. R. T. Greiner, the first colored graduate of Harvard University, has been appointed Principal of the Institute for Colored Youth, in Philadelphia, to succeed Prof. Catto, who was assassinated some time since.

— The class of 1829, at Harvard, is one of the most brilliant in college history. It includes among its members Oliver Wendell Holmes, Judge Benj. R. Curtis, Prof. Benj. Pierce, Rev. James Freeman Clarke, Rev. W. H. Channing and Hon. Wm. Gray. Rev. James Thurston of this class recently died in West Newton, Mass. The class celebrated its annual reunion a short time since. Out of fifty-eight who graduated thirty-three still remain, and of those, twenty-three were present at the reunion.

— The promoters of the scheme for commemorating the life and labors of John Goodsir, late professor of Anatomy in the University of Edinburg have been compelled to relinquish the idea of a fellowship, and adopt that of a triennial prize. The amount of money raised, £700, is not sufficient for founding a fellowship. The competition for the prize is to be open to all graduates of the University of more than three years standing, and it is to be given for an essay containing the results of original investigations in anatomy, human and comparative, either normal or pathological, or in experimental physiology.

— The first of the Boston lectures on Christianity and Scepticism, was delivered on Sunday evening, Jan. 14, and Monday afternoon, Jan. 15, by Rev. George F. Magoun President of Iowa College. The following are yet to be delivered: Rev. William F. Warren, D.D., Professor of Theology in the Boston (Methodist) Theological Seminary. Subject—"The Christian Type of Religious Consciousness," Jan. 21-22; Rev. H. D. Kitchel D.D., President of Middlebury College, Vt. Sub-

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ject—"Christian Doctrine, the Model of Christian Life and Character," Jan. 28-29; Rev. Kinsley Twining, Cambridgeport. Subject—"The Resurrection of Jesus," Feb. 4-5; Rev. A. P. Peabody, D.D., Professor of Harvard University. Subject—"The Call of the Apostles," Feb. 11-12; Rev. Timothy Dwight, D.D., Professor of Sacred Literature, Yale Theological Seminary, Feb. 18-19; Rev. W. E. Merriman, President of Ripon College, Wisconsin. Subject—"The Limitations of the Personal Work of Christ," Feb. 25-26; Rev. Truman M. Post, D.D., St. Louis, Mo. Subject—"God manifest in the Flesh," Mar. 3-4; Rev. James H. Fairchild, D.D., President of Oberlin College, Ohio, Subject—"The Divine Law as presented in the Scriptures."

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COLLEGE.

— Warren is to photograph the Seniors at Brown University and at Dartmouth College.

— The University crew for next year at Brown, will not be selected until after the spring races.

— The State University of Missouri at Columbia is to have a law department. It will be opened next September.

— Seven Seniors, eleven Sophomores and four Freshmen of Brown University are engaged in evening school teaching this winter.

— In the State University of Missouri, the Alumni can have the library and other rooms for their reunions, provided, that *dancing* forms no part of their entertainment.

— By a recent arrangement with the U. S. Coast Surrey Offices at Washington, observations are to be made hereafter at Dartmonth College upon the declination, dip and intensity of the magnetic force.

— The University of Cambridge, England, has chosen the following for the subject of its Latin ode at the next examination. The poem is not to exceed thirty stanzas: *Populus Americanus cum Britannus vinculo pacis et amicitiæ conjunctus.*

— The old Gymnasium at Brown University, which we believe was a private affair, having been given up of necessity, measures have been taken, with every hope of success, which will give the students the advantages of muscular training for the year to come.

— It is expected that Harvard will have a reading-room soon. The authorities have offered to devote Massachusetts lower hall to that purpose, the expense of running to be paid by the students. The *Advocate* board seems to have had a good share in bringing about this favorable state of things, and are now moving to raise the necessary funds.

— Darmouth College is to have a number of "Rejected models" from the Patent Office. These are said to be distributed under authority of Congress to the different educational institutions of the country. Professor Quimby, of Dartmouth, has recently selected about seven hundred for that institution, subject to recal if they are wanted. They cover a large field of invention and are regarded as valuable as curiosities in the museum, not less than as illustrations in the various departments of science, and for draughting. The same institution is to have specimens of the building stones of Washington, from the Smithsonian Institution.

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LITERARY.

— Grote's unfinished Aristotle is to be edited by Prof. Robinson.

— The Osgoods are soon to publish Prof. John Fiske's lectures on Positivism.

— Some hitherto unpublished poems of Shelley are to appear in a new London issue of his poems.

— The new Strasbourg Library contains upward of two hundred and fifty thousand volumes, all collected by voluntary contributions.

— The International Publishing House in Brussels has purchased three new manuscripts from Victor Hugo —two volumes of poetry and a juvenile work.

— Dr. Bellow's Memorial Address on the late Mr. H. T. Tuckerman, will be published in a few days, by Mr. G. Putnam & Sons. It will contain an excellent likeness of Mr. Tuckerman.

— Mr. W. R. S. Ralston, M.A., of the British Museum, has ready a volume of considerable interest, entitled "The Old Songs of the Russian People," as illustrative of Slavonic mythology and Russian social life.

— Winckelmann's "History of Ancient Art," the most valuable text-book on the subject, is to be fully brought in English by the translation and publication of volume three of the work, by Dr. G. Henry Lodge, of Boston.

— Doctor Henry M. Dexter, of the *Congregationalist*, is now in England, collecting materials for an exhaustive history of the founding of the New England Colonies, with special reference to the religious idea out of which the formation of the colonies grew.

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MISCELLANEOUS.

— Mr. Walter Smith, director of art education in the public schools of Boston, is to deliver a course of six lectures at the new hall of the Institute of Technology on art education and art applied to industry. The second lecture will be delivered Monday, Jan. 22.

— The late Sir Roderick I. Murchison left £1,000 to be invested in the name of the Geological Society in England or its trustees, under the title of the "Murchison Geological Fund," and the proceeds to be devoted to the encouragement and assistance of Geological investigation.

— The Royal Geological Society of England are intending to take measures to find out whether Dr. Livingstone is alive or not. This they hope to do either by offering a reward of 100 guineas to any African who will bring back a letter in Dr. Livingstone's hand-writing or by sending an expedition to penetrate to the point where he is supposed to be.

— The prize of 50,000 francs, offered April 18, 1866, by the Minister of Public Instruction in France for the most useful application of the Voltaic Pile has not been awarded. The period of competition expired last April, but the papers presented were not regarded worthy to receive the prize. The period of competition has, therefore been extended for another five years, or to Nov. 29, 1876.

Ruskin's Manners.—Never shall I forget the first, last, and only time I ever saw John Ruskin. His picture had hung for many years just over my study-table —that sweet, almost angelic face, which in somewhat coarser execution, still the same in character, fronts the title-page of some of his works. Who that has seen it has forgotten it? It is almost a child's face, and has not a little of the charm which invests one of Raphael's Sistine chreubs. But the real Ruskin, how different! I think he is the plainest man I ever saw; at any rate, no face has ever impressed me with so much ugliness. And as if to intensify nature, his manner of wearing his hair and his rudely-fitting dress only emphasized the natural want of charms. Ruskin's face has neither fineness of feature nor winning expression. His eye, it is true, is large and eloquent, but not enongh so to offset the rest of the face. He read a paper to a few friends that evening—not with much eloquence, but with a jerky, unatural flinging out of the words, quite unlike the flow of a good American reader. But the charm was underneath, in the thought itself, which like everything of Ruskin's was original, paradoxical, stimulating. The paper was afterwards printed, and forms the first half of his "Sesame and Lilies." He is a good American-hater, lives in great seclusion on Denmark Hill, one of the suburbs of London, is princely in his generosities, gracious to all young art-students who seek hia advice, and, with all his feudal tendencies, incont establ one of the noblest spirits of our age.

A Curiosity of Literature.—One of the most curious of literary freaks is mentioned in that very interest ing work "The Life of Barham," author of "The Ingoldsby Legends." Barham conceived the notion of a novel which was to be a joint stock production, each part to be the work of some person who had lived or been intimately acquainted with the life he attempted to describe. Barham was to furnish the opening chapters, in which the birth and earliest days of the young heir were to be described. His intimate friend, Mr. Hughes, was to describe the boy's life at a public school. Barham's son was to carry him through a few terms at Oxford, and Lord William Lenox was to undertake his initiation into the life of a gaurdsman, an *habitute* of Crockford's gambling-house, and other scenes of fast and fashionable dissipation. However, the scheme, which proved very impracticable, fell through. The part of the work supplied by Mr. Hughes—descriptive of public school life —was understood to be the work of his eldest son, "Tom." It was written with remarkable ability, and may be regarded as the germ of his celebrated story, "Tom Brown's School Days." The illustrations to the projected story were actually prepared by Leech, then only in the *premièr jeunesse* of his career, but they exhibited unmistakable evidence of the talent destined to make him famous. Eventually the fragments were whipped into a story which appeared in *Bently's Miscellany* under the name of "Stanley Thorn."

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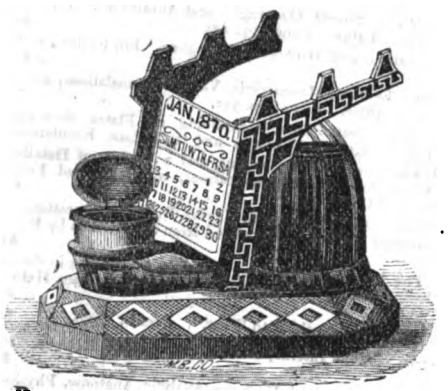

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BY HENRY R. ELLIOT, A.B.

The recent demise of the Linonian and Brothers in Unity Societies of Yale College has supplied the papers with a two-line item, but their exit has as yet inspired no one to write them a fuller obituary. Like some very old people who were prominent in their own bygone day, they outlived their fame as well as usefulness and sank into the ground unnoticed.

We doubt not that a large number of venerable graduates of these two institutions are to-day unconscious of their decline and death. To such, the announcement will be sad and bewildering news. For in their college time, the societies seemed so strongly intrenched in wisdom of design and a century's popularity and prestige; and seemed so interwoven with the very fiber of the college that no one would have risked a prophecy assigning to them a briefer future than the college itself enjoyed. When less than twenty years ago, the Hon. L. F. S. Foster expressed the following sentiment, he spoke sincerely and received sincere applause: "The Linonian Society," he said, at the centennial in '53, "must still live—live for centuries. For who can set bounds to the period in which Yale College shall have an existence? But so long as this college lives, so long must Linonia live with it. As long as this country exists, as long as the English language is read and spoken, *so* long must they both live." The Honorable Senator has experienced the not uncommon sensation of inscribing "*esto perpetua*" and "*In Memoriam*" on the same monument. The world has not yet outgrown a Puritan college, and the English language has thus far survived the interviewer and dialect writer, but "gallant, gay Linonia" is dead.

A review of the history and nature of these two societies may not be uninteresting at this time, or uncalled for. The Linonian Society which is the elder of the subjects of this memoir, was founded in 1753 by the "renowned" William Wickham. What William Wickham was "renowned" for is somewhat difficult to find out. The best authorities concur in the belief that his principal renown consists in his founding the illustrious society of Linonia. A generation ago, that single act might have been considered glory enough for any one man to achieve. Mr. Wickham is represented to have been an enthusiastic and influential member of the society, and to have been ornamented with all the honors at that time in its gift. This eminence was no doubt due to the fact that during the first year of its existence the Linonian Society consisted of Mr. William Wickham:

"The headmost horseman rode alone."

There can be no question but that a society of one possesses several important advantages over those of a larger membership. The poet recognized this when he sung:

"Solitude sometimes is best society."

Its meetings are always full, prompt and harmonious; it is the

"society where none intrudes;"

taxes are readily collected, ambition meets no vexatious opposition. We have no doubt the contemplation, fifteen years later, of this peculiarity of Linonia gave rise to the title "Brothers in Unity," with which the later and imitative society was christened. Be that as it may, the renowned Wickham was of altogether too genial a disposition to remain long in a state of social celibacy, and at the end of a year added several kindred spirits to himself.

What he and his descendants did for the next fifteen years, we have very little knowledge. The society in those early times had not acquired the dignity of record books, or if such existed they have not come down to us. But we have a mutilated copy of a constitution which, though not dated, probably reaches back to nearly the foundation of the society, and gives a pretty clear idea of what the association was at the start. The preamble sets forth the object of the society; it is "the formation of friendship and social intercourse and the advancement of literature." No person was to be admitted as a member, or be made acquainted with its laws and customs until he assented to the following promise; "You promise absolutely, seriously and without reserve in the presence of these witnesses that you will never, directly or indirectly betray, discover or reveal any of the laws, ceremonies or transactions of the Linonian Society; but that you will at all times, on all occasions and under all circumstances keep them an entire and profound secret from every person who may not be a member of this society, notwithstanding any attempt which may or can be made to entice, persuade or compel you to reveal them. This you faithfully promise."

This is hardly the ideal pledge of an "open Socicty" and nothing is plainer on an investigation of the early records than that the institution was designed and maintained for many years as a strictly secret organization. Witness the following minutes under the date of Dec. 11 1771; "Meantime some Plutonian interlopers lent a listening ear, as was afterwards discovered," (a complaint which is again made three weeks after), and the entry accompanying the adoption of a badge in 1802, the significance of which was to be considered "the most solemn secret of the Linonian Society."

The meetings were to be held on Thursday evenings, "at some place previously appointed, for the exhibition of exercises in disputation, composition and speaking." The offices, offences, penalties and taxes were those customary in similar organizations. One article establishes an observance which still remains, and let us hope always may, the same in essence though changed in almost every attribute; to wit, the Annual Jubilee. The article provides that "some time in the month of April (if convenient) on a day previously appointed, all the members of this society shall convene for the celebration of the anniversary of its first establishment. On this day there shall be exhibited before the society such a tragedy, comedy, orations and other performances as shall have been previously appointed and prepared for the amusement of the society. The anniversary shall be considered as a time of Jubilee and joy, and the whole day be spent in a manner suitable to the remembrance of so joyful an event as the birth of our society." The constitution also contains some amusing directions in regard to the library which will be alluded to hereafter.

As was before remarked, the society has left, and probably had no records of its transactions for the first fifteen years of its existence. At any rate, vol. I, as we have it, begins with 1768. Possibly the secrets were considered of so dreadful a nature, that up to that time it was thought inadvisable to commit them to tell-tale pen and ink, and so, as is another equally dreadful and mysterious secret — the significance of the letters *Delta Kappa*—were "handed down by tradition only." The first volume of records is evidently incomplete, and when intact might possibly have gone back to a junction with the diary of the renowned Wickham. Very likely the missing part was torn out and stolen by some memorabilia thief. The strongest argument against such, the most natural conjecture, is the fact that a part of the book is still left.

But in 1768 the record, as we have it, begins, and a very amusing record it is. That was the time of small beginnings, an age of simplicity and weakness. Linonia was then little more than a boys' debating club in a boarding-school, with not half the "pride, pomp and circumstance," which characterize the "*Π. Σ. T.*" of the Hopkins Grammar School or the "Philomathean" of Andover. We find, however, it had already become Honorable, Renowned, Brilliant and Illustrious—not to say Venerable. The earliest entry before us is as follows:

December 15th, 1768.

Then the Committee of this Honorable Society met to consult what method would be best in order to proceed to the best advantage of the members, and (the method) being proposed to this Honorable Society it was very well accepted. The method was as follows. The first Wednesday eve in every month there is to be a comedy acted. Every other Wednesday eve there is to be disputes and other exercises as usual.

"*Test*, HILLYER, *Scribe*."

Linonia thus emerges from pre-historic mists as an ultra-secret society, with the cultivation of literature, oratory and fun as its object, and having a membership of 45 distributed, almost equally among the four classes then in college. They met by appointment at the rooms of the members, class priority having little apparently to do in influencing the selection. On any extra occasion, as the anniversary, they would appoint as the place of meeting, the house of some member residing in the town or go to the State House—not the Stucco Parthenon which is now such a bankrupt debtor to the enchantress, Distance—but its humbler predecessor.

The record from this time (1768) is pretty full and shows a healthy internal and external condition. The regular meetings were, as a rule, fully attended, the exercises fairly sustained, and the minutes reflect considerable pride and affection entertained by the members toward their organization. The roll shows great increase, at times including the whole of a class. It would be of course impossible to give in our present space anything like a summary, howsoever brief, of the life and adventures of the society to the present time. Much less could we do this, and in addition sketch the rise and progress of her ancient rival. And there, too, is the fair Calliope who must not be slighted. But the books are so comical in spots, and an investigator is so frequently turning up such queer things, that he must notice before leaving the subject two or three characteristic features of the society as it was in the eighteenth century.

One of the strangest customs was the propounding and solution by the members of hard questions in mathematics and philosophy. Here are a few specimens. Mr. Gurley brought in this one: "To extract the square root of $\frac{1}{0}\frac{8}{0}$," and the solution is duly recorded. Here is another: The record reads (under date of February 27th, 1771) "question brought in by myself. How are the parts of life divided? Answer. Into three; the vegitative, the sensitive and the rational. *Test*, Nathan Hale." Here are two paradoxes. "Why is the weather coldest when the sun is nearest to us" and "Why doth the moon appear to be most enlightened when it is least enlightened." These and their explanations are duly "recorded" on the minutes of 1770. These are but specimens and not exaggerated specimens of the "agreeable questions" which made a regular feature of each night's entertainment. Shades of my classmates! Imagine yourselves if you can, spending the best part of Wednesday evening in Linonia Hall or any where else, cudgeling your brains in company to unravel such mathematical and psychological posers!

Another most interesting feature of those early times was the Annual Jubilee commemorative of the society's birth. This occurred as we have seen in April, "if convenient." The renowned Wickham is reported to have organized himself into the Linonian Society on the 12th of September, of the year 1753 of blessed

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memory, and so it is singular that the anniversary was held at the antipodes of the year. That is probably one of the secrets which have as yet escaped Plutonia. But, however, it got there, the anniversary was held as far back as we have any record in the month of April. On the eleventh of that month, 1769, the record tell us "this noble society met in order to celebrate its anniversary as usual . . . . . and it was celebrated with much delight." The exercises began with two orations, followed by a dialogue spoken by four members, "and the blissful day was closed by two orations." In 1772, the feature of the celebration was the acting of the comedy, Beaux' Stratagem; the names of Hale and Hillhouse appearing in the cast.

The jubilee in the following year was held at the "dwelling-house of Mr. Thomas Atwater," and was apparently of unusual interest. The exercises were opened at 11 A. M., by an oration appropriate to the occasion, followed by another oration, the usual election of officers and "the first part of a lecture on heads." The society then adjourned to the dining-room where they "found an elegant entertainment prepared." After dinner, "as soon as matters could be properly adjusted," a new comedy—the West Indian—was represented; the cast embracing fourteen characters in all, nine men and *(proh pudor!)* five women. The minutes say in regard to the play: "Both the scenery and action were on all hands allowed to be superior to any thing of the kind heretofore exhibited on the like occasion. The whole received peculiar beauty from the officers appearing dressed in regimentals and the *actresses in full and elegant suits of lady's apparel.* The last scene was no sooner closed than the company testified their satisfaction by the clapping of hands." "Alas," we think we hear some honorable member of the faculty exclaim, "How probable that Nathan Hale and James Hillhouse with other youths as frivolous as themselves were engaged in the scandalous business of preparing their fellows for their more scandalous appearance; how possible that Timothy Dwight sat in an honored and conspicuous seat and testified by the clapping of hands, his satisfaction at the indecent performance!"

The play was however, not the only iniquity. The Opera in a mild form was present. Between the third and fourth acts *a musical dialogue* "was sung by Fenn and Johnson in the characters of Damon and Clora, which met with deserved applause," and an encore. Other exercises followed, including the repetition of the "lecture on heads." "Then," says the record, "after a short pause was enlivened by agreeable conversation *and a cheerful glass*, a pathetic valedictory oration was delivered . . . . and at five o'clock (P. M. not A. M. as our society men would now take for granted was meant,) the assembly walked in procession to the college and then dispersed." Such was "a society bum" a century ago.

There is time at present to notice but one thing more in the rise of Linonia, the foundation of her library. This feature of the society was inaugurated in 1770, and was due in large measure to the enthusiasm and early wisdom of three illustrious members, Timothy Dwight, James Hillhouse and Nathan Hale. Its beginning was as insignificant as that of the college itself, being composed at first of such few volumes as could be collected by the private donations and efforts of the members. The record says under date of July, 1770, when "this renowned society met at Bellamy's room," that "in order to accomodate the members of this society with a library, a number of useful books were collected . . . . and for the regulation thereof, it was voted that the members of the meeting might have liberty to take out books at two o'clock in the afternoon; that no one might keep a book longer than a week without returning it, that he who came first after the time appointed should have what book he wanted." In November, 1771, the regulations were so amended as to allow members to take out books at any time, provided they were returned in a week from that time. That the collection though small,* was guarded with jealous pride, will be sufficiently evident from the following extract from the earliest constitution: "Art. 5, Sec. 4: The Librarian shall inspect every book returned into the library, and if he find it damaged in manner hereafter specified, he shall for such damage inflict the fine thereto annexed:

For breaking off a cover from a quarto or octavo volume of first quality, 2s. 0d.

For tearing out a leaf or injuring it, so as to deface the whole page, 1s. 0d.

For a drop of ink or grease, or turning down a leaf, 1½d.

For writing in a book, for every letter, 0½d.

Damages done to the same sized books "of the second quality" were assessed at two-thirds, and those done to "third quality" books, at one-third the above amounts. The Librarian is to have five pounds a year for his trouble, and "It is irrevocably enacted and ordained by the Linonian society that if any unforeseen accident shall ever dissolve this society, the library thereof shall be presented to the library of Yale College." How pathetic is this final provision, so hopeful, and yet so modest in respect to its own future; so affectionate and full of an invincible trust in the immortality and immortal worth of Yale. May no unforeseen accident ever compel a second disposition of the Linonian library.

The rise and progress of Brothers in Unity, and the history of the two societies as bodies politic are necessarily postponed until another time.

* In 1784 the total number of volumes amounted to only 359.

THE EDUCATION OF WOMEN.

CURRENT THOUGHT UPON THE SUBJECT.

A meeting was held in Boston, Wednesday, January 17th, to consider the question of better education for women. The meeting was ostensibly a private one, the ladies and gentlemen of which it was composed being called together by a circular, setting forth; that in view of the duties and responsibilities of women, their present education is fragmentary, insufficient, and unsatisfactory; asking suggestions as to the proper instrumentalities for its improvement, and signed by the following persons: Mrs. Alexander Agassiz, Mrs. J. Ingersoll Bowditch, Mrs. B. F. Brooks, Mrs. Samuel Cabot, jr., Mrs. William Claflin, Mrs. William Endicott, Mrs. Augustus Hemenway, Mrs. John E. Lodge, Mrs. Charles G. Loring, Mrs. F. C. Paine, Mrs. Charles S. Peirce, Mrs. J. P. Quincy, Mrs. George R. Russell, Mrs. R. C. Waterston, and Mary Anne Wales. These ladies were nearly all present and also quite a number of prominent educational men. Hon. Samuel Eliot presided, and the meeting consisted of speeches and addresses from some of the gentlemen present. We regret that our space will not permit us to give the speeches in fuller detail, but our object is not so much to give a report of this meeting as to show the drift of thought upon this interesting problem. We therefore clip out from the speeches made on this occasion, as printed in the Boston *Advertiser*, such portions as seem most pertinent, and add to them opinions from several other sources upon the same topic.

Dr. Eliot in taking the chair explained that the ladies who were interested in this subject, had associated themselves together under the name of the Women's Educational Association, that they had already elected certain officers, and it was intended to constitute a board of directors and form various committees to whom some of the questions relating to Woman's Education may be entrusted for consideration and future report. He then added:

Such, so far as I am acquainted with it, is the simple organization, and the simple purpose which has been formed. I need not say that it is a good cause. Its goodness, indeed, will be as generally admitted as anything can be in this life of divided opinions. Whatever is doubtful about the position of woman, this at least is clear, that she is capable of education, and that if she wants a better education, then she ought to have it. It is also a many-sided case. It wears no single aspect. It covers no limited field. Indeed, I suppose that one of the great difficulties arising at the outset is its many-sidedness. We hardly know where to begin, what to take hold of, into what to inquire, and upon what to act. It is a cause which stands up for the international development of women, that they may be brought into closer sympathy with the great intellects of the race, with the teacher and the scholar, with the follower of science and the follower of art, so that more of them may become what some of them are already—among the intellectual leaders of the race themselves. It embraces also the industrial development of women, that they may be trained to a greater degree of skill in all the occupations generally recognized as theirs, so that they may become at once better housekeepers and better workwomen, better fitted for the duties of home, better fitted also for the cares, labors and responsibilities of business or a professional career.

At the conclusion of his remarks, but few of which are given above, Dr. Eliot read the following questions as indicative of the range of topics which the Association had marked out for itself:

EDUCATIONAL QUESTIONS.

1. Shall the highest education of women be attempted in men's colleges?
2. Shall endowed institutions for women be separately provided?
3. Shall there be endowed institutions for the high and equal training of both sexes, separate in some departments and united in others?
4. What changes, if any, are necessary to make the colleges already existing suitable for women?
5. Are there any departments of the universities to which they could now be admitted without impropriety, as the scientific, technical and agricultural, and even the schools of law, medicine and theology, supposing a suitable preparation for those schools could be obtained?

INDUSTRIAL QUESTIONS.

1. How far is the State bound to give technical instruction?
2. How far can the public school training be made to have an industrial bearing?
3. Does industrial training promote good morals?
4. Which branches of industry can be most easily and cheaply taught and be made immediately remunerative?
5. In what departments of industry is skilled labor most needed by the community?
6. How can it be made possible for the poorest classes to avail themselves of the opportunities for industrial training which may be offered to them?
7. What relation does Kindergarten training bear to industrial education?

Dr. F. H. Hedge then read quite a lengthy address from which we make the following extracts:—

I wish it were in my power to offer counsel, based on decided opinions or fixed convictions, regarding this subject. I am obliged, on the contrary, to confess myself quite undecided on many points, and some of the most essential points of it. Of one thing only I am sure, namely, that women should have the opportunity of the very highest education that the best endowed and most amply furnished institutions can supply,—institutions possessing instructors as able, as learned, of as high repute in their several departments, and an apparatus of means and appliances as complete as any in the land. I hold that public provision made for the education of young women should be equal in all respects to that which is made in our colleges and universities, for the education of young men. And if such provision is not made, nor likely to be made, in the way of institutions adapted and intended exclusively for women, I am prepared to say that, if practicable, the doors of our universities should be thrown open to young women as well as to young men. I repeat my qualifying word, if practicable, and by that I mean unless more harm than good is likely to result from such promiscuous education of the sexes. The one point on which I insist is that women are by natural right entitled to all the advantages of education enjoyed by men.

But whether young women shall receive the same education that men receive is quite another question. The answer to that question will depend on two things, 1st, the characteristic qualities and faculties and natural tendencies of the feminine mind, and 2d, the place which woman is called to fill, or is likely in the ordinary course of events to fill in the scheme of society. In other words it must depend on her intellectual and her practical calling. For intellectual education has two distinct functions, mental culture and preparation for the business of life. Now as to the constitution of the feminine mind I firmly believe in native mental differences of sex. I believe that the feminine mind in its natural tendencies, wants and capacities, is otherwise constituted than the masculine. I find sufficient proof of that difference in the action of the feminine mind as witnessed in the history of literature. And I cannot admit in explanation of that difference a fore gone difference of intellectual training. I cannot admit the plea that if women had been educated like men their intellectual manifestation and literary action would have been the same. On the contrary I hold that the different training of the sexes can only be explained by the consciousness, coeval with civilization, of a native difference of mind, suggesting and demanding diversity of intellectual discipline. * * *

Now it seems to me that our theories of female education should

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take cognizance of past manifestations of the feminine mind as presented to us in the history of literature. I would not exclude the severer studies, but neither would I impose them on all alike. I would not withhold from women the opportunity and benefit of the highest intellectual discipline where in any exceptional case there is a genuine demand for it, a demand proceeding from rare endowments and native proclivity. But I would not encourage women from mistaken ambition or a spirit of rivalry, to which I think girls are more subject than boys, to pursue that for which they have no special aptitude. On the contrary, I would guard against the influence of misleading example and have it understood once for all that different endowments require different training, and that studies in which some girls excel are not therefore profitable to all. * *

The studies to be pursued in the education of women, whereby a highest education is intended, may be classed under three heads; those which should be required of all, those which should be left optional, but recommended to all, and those requiring a special vocation, and for which opportunity should be afforded where such aptitude exists. Under the first head I include, next to rudiments of reading, writing, drawing, reckoning, history, geography, the outlines of astronomy, physiology, the rudiments of anatomy, the history of English literature, one or two modern languages, say French and German, studied orally and scriptorially. The studies to be recommended are botany, zoology, chemistry geognosy, ethnology, political science, the history of literatures other than English, particularly modern literatures, Latin studied grammatically, and perhaps Italian and Spanish. Under the head of studies requiring a special vocation I reckon the science of language, Greek and the oriental languages, archæology, psychology, speculative philosophy, the higher mathematics and their applications to physical science. In the class of studies to be recommended I have named chemistry and natural history. For both of these studies the female mind possesses peculiar aptitudes. The faculty of observation is more readily developed in women than in men, and they possess in a greater degree the genius of manipulation. * * *

As to the question of promiscuous education of the sexes, the question, "Shall the highest education of women be attempted in men's colleges?" I am not, as I said, prepared to speak from the fixed conviction which experience only can warrant. I incline to the view that our universities should be thrown open to women so far as the studies pursued in them are elective; that women should have the privilege of attendance on such courses of lectures as they may choose to hear, that they should be allowed to offer themselves for examination in the studies they have pursued and receive degrees, if the examination has proved them competent, on the same terms on which these degrees are awarded to the other sex. They should not, however, be admissable to any of the college courses, excepting those known as "university lectures," to which they have already been invited, without formal matriculation based on approval by examination as rigorous as that required of boys who offer themselves as candidates for admission to the college. For the sake of both sexes the rigor of requirement should be as great for the one as for the other.

I have spoken of the admission of women on equal terms with men to the lecture courses and the degrees. I am not so clear as to the expediency of the mingling of the sexes in the recitation room. My plan would be this, that the sexes should be educated together until the age of 14, that then they should separate in their preparation for college, and come together again as grown-up gentlemen and ladies in the lecture room.

Prof. Child, of Cambridge, followed with a brief speech from which we extract the following:

To put girls into college with men the speaker would not recommend at present, and especially if only two or three should apply. If it be really the case that crowds are besieging the college gates, that is quite another thing; but, so far as his observation went, but few women would avail themselves of the opportunity were it offered. As Dr. Hedge had said, we ought to be grateful to the few who have come to the university lectures, but even these have not been willing to pass examinations. There is no doubt that many young women would attend literary lectures, but as to undergoing the course of discipline which ought to be established in a college, he thought there was much donbt about it. At any rate he wanted to see the experiment tried.

Dr. Edward Clark gave some of his opinions as follows:

In regard to the co-education of women he said that a certain amount of juxta position is advantageous. Youth of both sexes got along well together up to the age of 14, in the school-room and the church, but after that comes the time when they cannot be together except under a constant and severe discipline. To place boys and girls in such a position that they are compelled to be constantly thinking of each other is an injurious method. Therefore, the girls must be educated separately. He thought that they must be separated exactly as they are in factories and already to some extent in the common schools. Furthermore, he remarked upon the necessity that men and women should be educated differently to suit their different vocations.

The remarks of Andrew D. White, President of Cornell University, are so practical and so instructive that we give them in full. President White said:

The discussion has drifted in a direction, which has interested me, and the interest which it has to me is of a very practical sort, for on the second Wednesday of next month the trustees of the college with which I am connected are to decide whether or not they will accept a gift of two hundred and fifty thousand dollars for establishing a college for women under the same organization which now conducts a college for men. I had supposed that the drift of the discussion was to be in regard to industrial education, but as I have some thoughts which have not been brought out, and some which are based upon theory, I confess that a desire arose in me strongly to give a few of them. As the chairman of the committee whose report is to contribute largely to the decision of the question to which I have referred, it has been my duty in the last two months to make a special examination in regard to this very matter. I have visited every college in the United States of any importance, every college or university so-called, where the sexes are educated together. I have talked with professors, with the presidents, with the students, male and female, with the people in town, of all conditions. Nor is it a matter which has been confined with me to this six weeks or two months; it is a matter on which I have thought for some time. Now to start with, there is experience to go upon. Dr. Hedge has argued the matter, and very ably, as he must confess more from a theoretical point of view. But there is after all, if you did but know it, there is a very large experience back of this question. I knew very little about the organization of the education of New England, the academic or high school education. But the first fact which met me when I thought of this question was this: In the state of New York containing now about four millions of people, we have a very wide system of education in our academies and high schools for young men and young women. From time immemorial young men and young women of a marriageable age have been educated together in those schools, and I have yet to hear of the first case of scandal that has arisen in one of these institutions. More than that, I have never seen a young woman educated in one of those institutions who did not seem to me to be rather the better for that education. Professor Child expressed my own feelings exactly when he spoke of the ineffable inutillity of the so-called finishing education of woman; but I think that that education poor as it has been in many respects, in the high school and academies where young men and young women have been educated freely together has proved that it is not so difficult a question as has been supposed. Again I look back to my own college life, in the second in importance of your New England colleges. I remember that in New Haven we had in four of the more important lecture-rooms a large number of young woman, and so far as I could see the only influence of the introduction of those young woman was to make the place a little more decent. There was a little less noise and rowdyism in those lecture-rooms than in the ones where young woman were not. But I have not confined myself to those observations. I have the benefit of a large correspondence begun several years since at the University of Michigan, and which in part led to the co-education of both sexes at that institution, and while I have a large collection of letters from educators which declare their doubts of young men and young woman together, I find that when they are brought down to the point as to the education of the sexes in the high schools or colleges, the rooms where they are so educated are rather more decent, and far more pleasant. In not one letter do I recollect anything that makes against this position. There were plentiful statements of theory against co-education. And I am not an advocate of having young men and young woman always educated together. I am delighted to have anybody found a Vassar College, I was heartily glad to have this offer made to us, and I shall do what I can to promote its acceptance. I believe I am not a bigot in this matter, but I most thoroughly believe that the education of the sexes together is well worth trying, and I will briefly tell you some of the reasons. In the first place, I visited Oberlin College, which has perhaps been as much laughed at as any college in this land. It has all sorts of vagaries. It first dared to do that most frightful thing—to educate black men and white men together. It dared to educate men and woman together. I went and saw them together, and I never saw any bodyconduct itself better than that body of students, numbering two or three hundred of young men and young women, in their large dining-hall; and those who know anything about education know that that is a remarkably good test of the civilization that obtains among them. Then in the class-room as to ability. Dr. Clark has said that he would have a woman do anything that she could do. Now the cleanest and the clearest and the best reading of Tacitus that I heard at Oberlin College was from a woman, and any person who can read Tacitus well shows pretty good evidence of a strong, clear mind. Again, at the University of Michigan there is a different system, there being no dormitory. There the professor of civil engineering, Professor Wood, told me that for several years he had been in the habit of offering a prize for problems in the higher mathematics. For several years they had not been solved, but this year it had been solved and solved by a woman, and the testimony generally was that the women stood as well as the men. Professor Winchell, who has charge of the botany, showed me a careful schedule which he had prepared to show which stood the highest, and in his department the young women excelled. At Antioch College in a German class, I saw excellent work done by a woman. I saw excellent work done in other directions in the colleges. I have already named. At the Industrial University of the State of Illinois the same thing was shown, the women holding their own remarkably well. At the University of Wisconsin there is the same testimony At the so-called Northwestern University at Evanston, Illinois, near Chicago, and also at the Iowa University, which I did not visit, there is the same testimony. Now I won't claim that the women showed greater power than the young men. Mr. White said that the gentleman who went with him, and who proposed to make the gift, came back believing that women excelled men in their powers of acquirement, but he did not lose sight ot the fact that the young woman were singled out, while the young men were taken as they run. He admitted that the young women were apt to devote themselves so earnestly to study as to injure their health, thus confirming the judgment of Goldwin Smith that competitive prizes were dangerous where young men and young women were together. President Angell of the Michigan University, who was prepared to think unfavorably of the system at the start, had begun to like it. The young men and young women did not walk together, and the young men were more attentive to the young women of the place than to their fellow-students. In regard to the studies to be taught to young women he favored Latin, intellectual arithmetic and botany, and thought that if Plutarch's Lives could be read afterwards the women of the land would be far better fitted for their life-work, [Applause.]

The meeting was concluded after a few remarks from Dr. Ellis, Superintendent Philbrick and Rev. R. C. Waterson. To these expressions of opinion we add two or three more culled from several sources. In the last message of Governor Washburn of Massachusetts. we find the following:

None of us can be unmindful of the growing desire among the woman of the State for greater and improved educational privileges. After what has already been said on the general subject of education, I hardly need add that their demand for enlarged opportunity has my sympathy. I am not able to see why the intellect of one sex is more entitled than that of the other to culture and strengthening. I do not insist that the course of instruction for young women should be like that laid down by our best colleges for young men, but it ought not in any respect to be inferior, and the facilities for study offered to the first-named ought to be as good as those enjoyed by the last-named.

In a recent lecture in Boston, Rev. Dr. Miner, president of Tufts College, is reported as saying:

Both men and women, young girls as well as boys have a right to all the education they can get. But what right have young men to march up to the doors of Vassar College and demand admittance? And yet they have just as much right as women have to demand that the doors of colleges established exclusively for young men shall be opened to them. Dr. Miner does not see any reason why young men and young woman shall not be educated side by side as far as the institutions now established carry them. But soon there is a place where their paths should diverge, where woman shall receive some education appropriate to the place which most woman are called upon to fill—that of the head of a household.

Professor Henry M. Tyler of Knox College at Galesburg, Ill., writes to the *Congregationalist* in reference to the practical working of the effort to give women better educational advantages:

The two sexes are trained together in a large portion of the Western colleges, and it is a rare thing to hear it suggested that the ladies are an inconvenience or a hindrance to the classes in which they recite. The plan of education seems to grow in favor rather than to become unpopular. At Knox College this question has received particular attention, and peculiarly favorable opportunity has been given for testing it by actual experiment. The College and Ladies Seminary are organized as distinct institutions under one body of trustees. For a time the classes were kept almost entirely separate, but lately the two sexes, when studying the same branches, have generally had but one recitation, as experience has seemed to do away with the supposed objection to this plan. In the philosophical studies which come at the close of the course in both institutions, it is the custom of the two senior classes to meet together throughout the year. They are found to deal with the subject under dicussion by somewhat different methods, but each gives light to the other, and no complaint is heard that either is a hindrance. * * *

One fact in this connection is worthy of mention. The colleges all seem to report that the ladies are among the very best scholars in their classes * * *

The moral influence of co-education is greatly feared, but it is feared least by those who have seen its workings. The experiment has been tried in hundreds of Western institutions, and those who have watched the results seem to be free from fear of serious ill-effects. Moreover those ladies whose influence would be undesirable are the class least likely to seek the discipline of college life. The hard work and continued effort demanded will prove a most advantageous protective, if not a prohibitory, tariff against these mischievous importations.

The following additional testimony upon this point is from Dr. A. S. Welch, president of the State Agricultural College at Ames, Iowa:

There has been no objection to the admission of ladies. We have about fifty; they occupy one wing of the building. I have been asked if they gave trouble in their intercourse with young men?

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Yes, they do a little occasionally, and but a little. With us, as to intellectual capacity, the sexes appear to be about equal. The difficulties we have with them are far less than with young men alone. Our best chemist, working in the analytical laboratory, is a girl of seventeen.

THE COPLEY MEDALIST OF 1870.

The following, in reference to the recipient of the Copley Medal—the highest honor of the Royal Society—for 1870 is copied from *Nature:*

Thirty years ago Electro-magnetism was looked to as a motive power which might possibly compete with steam. In centres of industry, such as Manchester, attempts to investigate and apply this power were numerous, as shown by the scientific literature of the time. Among others Mr. James Prescot Joule, a resident of Manchester, took up the subject, and in a series of papers published in Sturgeon's "Annals of Electricity" between 1839 and 1841, described various attempts at the construction and perfection of electro-magnetic engines. The spirit in which Mr. Joule pursued these inquiries is revealed in the following extract: "I am particularly anxious," he says, "to communicate any new arrangement, in order, if possible, to forestall the monopolising designs of those who seem to regard this most interesting subject merely in the light of pecuniary speculation." He was naturally led to investigate the laws of electro-magnetic attractions, and in 1840 he announced the important principle that the attractive force exerted by two electro-magnets, or by any electro-magnet and a mass of annealed iron, is directly proportional to the square of the strength of the magnetising current; while the attraction exerted between an electro-magnet and the pole of a permanent steel magnet varies simply as the strength of the current. These investigations were conducted independently of, though a little subsequently to, the celebrated inquiries of Henry, Jacobi, and Lenz and Jacobi on the same subject.

On the 17th of December, 1840, Mr. Joule communicated to the Royal Society a paper on the production of heat by Voltaic electricity; in which he announced the law that the calorific effects of equal quantities of transmitted electricity are proportional to the resistance overcome by the current, whatever may be the length, thickness, shape, or character of the metal which closes the circuit; and also proportional to the square of the quantity of transmitted electricty. This is a law of primary importance. In another paper, presented to but declined by the Royal Society, he confirmed this law by new experiments and materially extended it. He also extended experiments on the heat consequent on the passage of Voltaic electricity through electrolytes, and found in all cases that the heat evolved by the proper action of any Voltaic current is proportional to the square of the intensity of that current multiplied by the resistance to conduction which it experiences. From this law he deduced a number of conclusions of the highest importance to electro-chemistry.

It was during these inquiries, which are marked throughout by rare sagacity and originality, that the great idea of establishing quantitative relations between Mechanical Energy and Heat arose and assumed definite form in his mind. In 1843 Mr. Joule read before the meeting of the British Association at Cork a paper "On the Calorific Effects of Magneto-Electricity and on the Mechanical Value of Heat." Even at the present day this memoir is tough reading, and at the time it was written it must have appeared hopelessly entangled. This I should think was the reason why Prof. Faraday advised Mr. Joule not to submit the paper to the Royal Society. But its drift and results are summed up in these memorable words by its author, written some time subsequently: "In that paper it was demonstrated experimently that the mechanical power exerted in turning a magneto-electric machine is converted into the heat evolved by the passage of the currents of induction through its coils, and on the other hand, that the motive power of the electro-magnetic engine is obtained at the expense of the heat due to the chemical reaction of the battery by which it is worked."* It is needless to dwell upon the weight and importance of this statement.

Considering the imperfections incidental to a first determination, it is not surprising that the "mechanical values of heat," deduced from the different series of experiments published in 1843, varied somewhat widely from each other. The lowest limit was 587, and the highest 1,026 foot-pounds for 1° F. of temperature.

One noteworthy result of his inquiries, which was pointed out at the time by Mr. Joule, had reference to the exceedingly small fraction of the heat which is actually converted into useful effect in the steam-engine. The thoughts of the clebrated Julius Robert Mayer, who was then engaged in Germany upon the same question, had moved independently in the same groove; but to his labors due reference will doubtless be made on a future occasion. In the memoir now referred to, Mr. Joule also announced that he had proved heat to be evolved during the passage of water through narrow tubes; and he deduced from these experiments an equivalent of 770 foot-pounds, a figure remarkably near to the one now accepted. A detached statement regarding the origin and convertibility of animal heat strikingly illustrates the penetration of Mr. Joule and his mastery of principles at the period now referred to. A friend had mentioned to him Haller's hypothesis, that animal heat might arise from the friction of the blood in the veins and arteries. "It is unquestionable," writes Mr. Joule, "that heat is produced by friction, but it must be understood that the mechanical force expended in the friction is a part of the force of affinity which causes the venous blood to unite with oxygen, so that the whole heat of the system must still be referred to the chemical changes. But if the animal were engaged in turning a piece of machinery, or in ascending a mountain, I apprehend that in proportion to the muscular effort put forth for the purpose, a *diminution* of the heat evolved in the system by a given chemical action would be experienced." The italics in this memorable passage, written it is to be remembered in 1843, are Mr. Joule's own.

The concluding paragraph of this British Association paper equally illustrates his insight and precision regarding the nature of chemical and latent heat. "I had," he writes, "endeavored to prove that when two atoms combine together, the heat evolved is exactly that which would have been evolved by the electrical current due to the chemical action taking place, and is therefore proportional to the intensity of the chemical force causing the atoms to combine. I now venture to state more explicitly, that it is not precisely the attraction of affinity, but rather the mechanical force expended by the atoms is falling towards one another, which determines the intensity of the current, and, consequetly the quantity of heat evolved; so that we have a simple hypothesis by which we may explain why heat is evolved so freely in the combination of gases, and by which indeed we may account 'latent heat' as a mechanical power perpared for action as a watch-spring is when wound up. Suppose, for the sake of illustration, that 8 lbs. of oxygen and 1 lb. of hydrogen were presented to one another in the gaseous state, and then exploded; the heat evolved would be about 1° F. in 60,000 lbs. of water, indicating a mechanical force expended in the combination equal to a weight of about 50,000,000 lbs. raised to the height of one foot. Now if the oxygen and hydrogen could be presented to each other in a liquid state, the heat of combination would be less than before, because the atoms in combining would fall through less space." No words of mine are needed to point out the commanding grasp of molecular physics, in their relation to the mechanical theory of heat, implied by this statement.

Perfectly assured of the importance of the principle which his experiments aimed at establishing, Mr. Joule did not rest content with results presenting such discrepancies as those above referred to. He resorted in 1844 to entirely new methods, and made elaborate experiments on the thermal changes produced in air during its expansion: firstly, against a pressure, and therefore performing work; secondly, against no pressure, and therefore performing no work. He thus established anew the relation between the heat consumed and the work done. From five different series of experiments he deduced five different mechanical equivalents; the agreement between them being far greater than that attained in his first experiments. The mean of them was 802 foot-pounds. From experiments with water agitated by a paddle-wheel, he deduced, in 1845, an equivalent of 890 foot-pounds. In 1847 he again operated upon water and sperm-oil, agitated them by a paddle-wheel, determined their elevation of temperature, and the mechanical power which produced it. From the one he derived an equivalent of 781·5 foot-pounds; from the other an equivalent of 782·1 foot-pounds. The mean of these two very close determinations is 781·8 foot-pounds.

At this time the labors of the previous ten years had made Mr. Joule completely master of the conditions essential to accuracy and success. Bringing his ripened experience to bear upon the subject, he executed in 1849 a series of 40 experiments on the friction of water, 50 experiments on the friction of mercury, and 20 experiments on the friction of plates of cast-iron. He deduced from these experiments our present mechanical equivalent of heat, justly recognised all over the world as "Joule's equivalent."

There are labors so great and so pregnant in consequences, that they are most highly praised when they are most simply stated. Such are the labors of Mr. Joule. They constitute the experimental foundation of a principle of incalculable moment, not only to the practice, but still more to the philosophy of Science. Since the days of Newton, nothing more important than the theory of which Mr. Joule is the experimental demonstrator has been enunciated.

I have omitted all reference to the numerous minor papers with which Mr. Joule has enriched scientific literature. Nor have I alluded to the important investigations which he has conducted jointly with Sir William Thompson. But sufficient, I think, has been here said to show that, in conferring upon Mr. Joule the highest honor of the Royal Society, the Council paid to genuis not only a well-won tribute, but one which had been fairly earned twenty years previously.

Comparing this brief history with that of the Copley Medalist of 1871, the differentiating influence of "environment" on two minds of similar natural cast and endowment comes up in an instructive manner. Withdrawn from mechanical appliance, Mayer fell back upon reflection, selecting with marvellous sagacity from existing physical data the single result on which could be founded a calculation of the mechanical equivalent of heat. In the midst of mechanical appliances, Joule resorted to experiment, and laid the broad and firm foundation which has secured for the mechanical theory the acceptance it now enjoys. A great portion of Joule's time was occupied in actual manipulation; freed from this, Mayer had time to follow theory into its most abstruse and and impressive applications. With their places reversed, however, Joule might have become Mayer, and Mayer might have become Joule.

JOHN TYNDALL.

*Phil. Mag. May, 1845.

— The four-hundredth anniversary of the birth of Copernicus is to be celebrated at Posen, Prussia, on the 19th of February, 1873, and great preparations are already being made for the occasion. The "Society of the Friends of Learning" in that city, have decided to offer a prize for the best life of Copernicus, comprising the results of the latent investigations on the subject, and to publish it in the Polish, French, and German languages.

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SCIENTIFIC.

On Phosphorescent light developed by Friction.—In a recent note to the French Academy, M. Alvergniat states that he has succeeded in producing a tube which may be rendered luminous by friction. This tube is of glass, 45 centimeters long, and straight. It is exhausted by the mercurial air-pump, a little silicon chloride or bromide is introduced, and it is again exhausted until the pressure is reduced to 12 or 15 millimeters, when it is sealed over the lamp. If now this tube be rubbed between the fingers or with a piece of silk, a bright luminosity appears and follows the movement of the hand. This light is rosy with the chloride and greenish-yellow with the bromide of silicon. It recalls that long ago observed in the barometric vacuum, but is more intense.

No light is developed in such a tube by the spark of an induction coil, until the vacuum is made more perfect; but in this case the phosphorescence by friction disappears.

Nitro-glycerin Explosion-Products. — M. L'Hote has devised an ingenious method for measuring and analyzing the gases which are produced by the explosion of nitro-glycerin. Starting from the fact that the blow of a hammer will explode nitro-glycerin, he sought to produce the same effect by the blow of exploding oxygen and hydrogen in a eudiometer. The first experiment was made with a Gay-Lussac's eudiometer, whose walls were 13 mm. thick. It contained 10 cubic centimeters of mixed gases and 6 centigrams of nitro-glycerin. On firing the gases by an electric spark the nitro-glycerin exploded and shattered the tube to fragments. By lessening the quantity of nitro-glycerin used, and by using Mitscherlich's eudiometer, made from hard combustion-tubing, the author has succeeded in making the experiment successfully. The nitro-glycerin—about 5 or 6 milligrams—is introduced in a little bulb, into the eudiometer containing 10 c.c. of the mixed gases, the spark is then passed and the gaseous products are examined. The surface of the mercury in the eudiometer is slightly tarnished by the nitrous products. The gases resulting from the explosion are colorless, and contain so much nitric oxide as to give red fumes in the air. When acted on by absorbents nitrogen alone is left. One gram of nitro-glycerin thus treated gives 284 cubic centimeters of gaseous products (corrected) which were composed of 45·72 per cent of carbonic acid, 20·36 per cent of nitric oxide and 33·92 per cent of nitrogen.

The same method of analysis is applicable to other explosives. M. L'Hote has exploded 20 to 25 milligrams of potassium picrate in this way, and has obtained a gaseous product which is inflammable and which contains an appreciable portion of cyanogen.

Borax in Nevada.—The occurrence of Borax in the waters of Borax lake, California, and especially the existence of large crystals of it in the mud of this lake excited very much interest upon its discovery several years ago. We now learn from the *Scientific Press* that large deposits both of sodium and of calcium borates, have been discovered in the state of Nevada, the most extensive being those of the Columbus and Fish Lake valleys, in the southern part of Esmeralda County. In some localities the sodium borate, in others the calcium borate predominates; thus at Hot Springs on the Central Pacific Railroad, and at Sand Springs, Teal's Marsh, and Double Springs, the deposits consist chiefly of the calcium salt; while at Rhode's Marsh and in the Columbus and Fish Lake valleys, both borates occur together. The Hot Springs deposit contains so little sodium that when experimenting with it at Wadsworth the soda had to be brought from Ragtown, 30 miles distant.

Owing to various difficulties of this and other kinds, the practical manufacture of borax is but little developed. One establishment at Ragtown is making 200 lbs. refined borax daily, importing the crude calcium borate from Sand Springs, 25 miles distant, and decomposing this with sodium carbonate, yielded by a lake in the vicinity. The crude borates have also been shipped to San Francisco and worked up there. The Columbus, and Fish Lake valley property, owned by the Nevada Consolidated Borax Company, the richest borax district in the state, is unfortunately 150 miles from the Central Pacific Railroad, the roads being very poor and hilly. But by constructing an improved wagon road, or still better a railroad, as they now propose, these deposits may be made available.

Dangerous Cosmetics.—At a recent sitting of the Paris Academy of Medicine, Dr. Réveil read a paper on the necessity of preventing perfumers from selling poisonous or dangerous articles, which should be exclusively left to the responsibility of regular chemists, and not sold without a physician's prescription. "To show the danger there is in allowing the unchecked sale of certain compounds," he said, "I need but state that arsenic, the acid nitrate of mercury, tartar emetic, cantharides, colchicum, and potassa caustica, form part of their ingredients. The kind of soap called lettuce soap, which is sold with the announcement that it has been acknowledged by the Academy, does not contain the slightest trace of lettuce. This and other soaps are all colored green by the sesqui-oxide of chromium, or of a rose color by the sulphide of mercury known as vermilion. Some which are cheaper contain 30 per cent. of insoluble matter, such as lime or plaster, while others contain animal nitrogenous matter which, having escaped the process of saponification, emits a bad smell when its solution is left exposed to the air.

The various toilet vinegars are so far noxious that, being applied to the skin still impregnated with soap and water, they give rise to a decomposition, in consequence of which the fatty acids of soaps, being insoluble in water, are not removed by washing, become rancid, and cause a chronic inflammation of the skin. The preparations employed for hair-dye under the pompous names of 'African Water,' 'Florida Water,' &c., all contain nitrate of silver, sulphur, oxide and acetate of lead, sulphate of copper, and other noxious substances. All cosmetics for removing hairs or freckles are dangerous; the *lait antéphélique*, for instance, contains corrosive sublimate and oxide of lead. Were a chemist to deliver such a remedy to a customer without a regular prescription, he would be liable to a fine of 6,000f." Dr. Réveil concluded by expressing his regret that certain physicians should so far forget their own dignity as to lend the support of their names to such noxious inventions.

Professor Huxley on the Classification of Psychoses.—We find in the *Bowdoin Scientific Review*, the following abstract of Professor Huxley's fifth lecture at the London Institution, which was published in the *London Medical Times and Gazette*, for December 9, 1871:

On Monday, the 27th ult., in his fifth lecture, which, according to the programme, was to have been on the subject of "Smell, Taste, and Touch," Professor Huxley, referring only cursorily to the physiological history of these sensations, took his hearers over the more purely abstract ground of the metaphysical classification of Psychoses. He divided the original Psychoses into two groups, primary and secondary—the former requiring no antecedent psychosis, the latter only occuring after a primary. The primary original psychoses he roughly classified as Sensations, Emotions, and Volitions; or, as he considered a better classification, Sensations, Pleasures, Pains, and Efforts. These we share with the lower animals in kind, though differing in degree. In many of the lower animals there is every reason for thinking that the sensations are very intense. In sensations of all kinds there are grades, passing on from the very slightest perception to actual pain. He classified the sensations into Indefinite, Thermic, Olfactory, Auditory, Tactile, Visual. The *indefinite* are exemplified in the dim consciousness of existence which every one feels without being able to specify—such as the sensation for the first few moments between sleeping and waking. The *thermic* present themselves to us in our feeling of a general sense of heat and cold, without localization, as felt by himself, and no doubt by each of his audience, in the warm crowded lecture-theater. The *olfactory*, referable to the nose, which, however, is not the actual seat of the organ by which the sensation is produced. The immense variety and extreme diversity of odors are well known, as may be exemplified by the violet and assafœtida, but in each we can appreciate and distinguish different degrees of intensity; but the source of an odor is more general or diffused than localized. In the *auditory*, the same degrees may be observed; every note in the gamut, for instance, is absolutely distinct from every other. The localization, also, of the source of a sound is not very definite, but when it becomes so, the psychosis passes from primary to secondary. The range of *tactile* sensations is very great; they admit of more definite localization, but the seat of the sensation is not in the part touched. The *visual* sensations are exceedingly diverse in kind and intensity, from the sense of the slightest gleam of light, to the actual pain caused by gazing at the sun or a brilliant flame. The source of the sensation is also referred to something outside of and beyond the body, and in a definite direction. This is experienced with reference even to the flashes of light caused by pressing on the eyeball when the eye is closed.

Pleasures and Pains may be divided into *bodily* and *mental*. The confusion of language which applies the same term to a toothache as to the feeling of remorse, to the pleasure of eating one's dinner as to the pleasure of doing right, causes also a confusion of ideas. It is advanced as a reproach against a certain school of philosophers that they base our motives of action upon the pleasurable or painful nature of the results of our deeds. This misapplication of terms, however, is the fault, not of the moralists, but of language. The introduction of the class of Efforts may seem an innovation. The bodily effort necessary for sustaining an object steadily in the hand implies a consciousness of resistance, known as the "muscular sense," by which we are enabled to distinguish objects as regards the property of weight. The seat of this sense of resistance and effort has never been exactly defined. Professor Huxley appeared to think it might be a secondary sensation conveyed to the brain from the skin overlying the muscles employed. Volitional or mental effort is exerted in two different ways—namely, for the control of the mental state (the shutting out of external objects and the concentration of thought upon a fixed subject), and for the production of bodily motion. Consciousness gives no clue as to how this controlling power of volitional effort is exerted.

The secondary original psychoses are those which come into operation in the exercise of judgment or acts of reasoning. By them we become aware of Succession, Co-existence, Similarity, Dissimilarity, and Locality, as respects external objects or mental phenomena. The philosophy which derives all states of mind from sensations, cannot get rid of the above, and cannot trace them to associations or sensations. In defining the locality, for instance, of an external object by touching it directly with the hand, the sensation does not really exist in the hand any more than in the point of a poker, supposing the external object to have been touched through that instrument held in the hand. The sense of contact is conveyed as a neurosis from the point touched along the nerves to the central organ, and referred thence back to the point touched as an actual primary psychosis. The sense of light, also, is not in the eye, nor that of sound in the ear, as he had already shown. . . . .

Professor Huxley concluded with an illustration of the hypothetical connection between neuroses and psychoses, by saying that the whole nervous system may be compared to a clock showing the hour and other events on its face, and consciousness to another superadded clock or piece of mechanism, which strikes the hour or plays tunes, but whose action is not essential to that of the other clock.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, JAN. 27, 1872.

THE recent action of Havard University as detailed in another column in referrence to degrees, is interesting and worthy of attention. The throwing open of certain degrees to the graduates of other colleges, the requirement of further study for the degree of M.A. and the vigorous conditions required for that of Doctor of Science, are evidence of a praiseworthy liberality of spirit, and at the same time, of an intention to raise rather than lower the standard of scholarship which these degrees represent.

THE article on "The Two Oldest College Societies," which we publish elsewhere, will be found interesting reading, and not alone to Yale Graduates. These old fraternities, are regarded as the oldest literary societies in America, and as such, possess an interest to every college man. Although no definite action has been taken to kill them; they are practically dead and have been so for several years. The younger and secret fraternities of Yale have usurped the time and interest which was once so freely lavished upon these venerable institutions.

FROM the New York correspondence of the Boston *Advertiser* we learn the following interesting facts in reference to the publication of American books in England. It is gratifying to know that the haste and carelessness in regard to details, and want of proper expenditure of time and labor to make a good work which characterizes so many American books, is not so in all cases, and that this fact is being recognized abroad. "Strahan of London is to reproduce, from duplicate stereotype President Noah Porter's Elements of Intellectual Philosophy and the Human Intellect, by arrangement with its publishers, Messrs. Scribner & Co. Nelson of Edinburgh is doing the same thing with Dr. Hodge's (Dr. Charles Hodge of Princton theological library) System of Theology; and Hodder and Stough ton of London are to bring out Ueberweg's History of Philosophy, translated by Professor Morris of Michigan University, and edited by Smith, Schaff and Porter, as the first volume of a new theological library. Clark of Edinburgh is also regularly ordering large editions of the different volumes of Lange's Commentary, the American edition of which has entirely superseded the English, only two or three volumes of which were published, so superior was the American edition."

BY the death of Isaac Rich, of Boston, on Saturday January 13th, some of the collegiate institutions of New England lose one of their warmest friends and benefactors. Mr. Rich was born at Wellfleet on Cape Cod, and by patient attention to business, not less than by his innate ability, self-reliance, and boldness, accumulated an immense fortune. It is estimated that at his death he was worth a million and a half of dollars, and he is believed to have given away half that amount during his life time, most of it for the benefit of Methodism. When the academy buildings were burned at Wilbraham, Mass., he said to the trustees "Do what you can and I will furnish the rest," and this he did to the amount of $60,000. But perhaps his most generous gifts while living, were to Wesleyan University, at Middletown, Conn. This institution is indebted to Mr. Rich, for its beautiful library building—Rich Hall—for the endowment of the Latin chair, and for other bequests amounting in all to over $100,000. The bulk of his property which remains it is said is left to the Methodist Theological Seminary, at Boston, and is to be used in developing that institution into a university, with schools of law, medicine, etc. Mr. Rich had seven children all of whom with his wife are now dead, most of the former dying as they reached maturity. His funeral was largely attended.

Cornell University, through President White, secured a rich prize a few days since in the purchase for $12.000 of the entire historical library of the late president Sparks of Harvard College. The library contains about six thousand volumes and a large number of the books are rare and of great historical value. A catalogue has been prepared by Mrs. Sparks, assisted by the late Joseph Green Cogswell, formerly of Astor library, Dr. Ezra Abott, assistant librarian of Harvard University, and Mr. Henry Stephens, which contains some 230 pages. In the preface, Mrs. Sparks says;

"The library possesses quaint and unique volumes. There are also many not always easily found, which correspond to Mr. Spark's expressed intention to 'own every book he might wish to use.' For its historic manuscripts it has long been known. These papers were collected with intuitive skill and increasing ability during various tours undertaken since 1819 for the purpose; first, in the thirteen original States; often elsewhere in his own enlarged country; three times in prolonged visits to Europe; by means also of his extensive correspondence during the years 1819—1866. These letters are arranged in 60 large volumes, with a daily index. The Journals of the tours point out the deposits of many unknown treasures, sketching scenes, characters and incidents; thus preserving information and reproducing remiscences of a period far more remote."

The library is to be taken to Cornell and deposited in the new stone library building, now being erected. The building will be completed within a few months and when done will contain lecture rooms so arranged that both lecturer and students can pass at once from the lecture room to the library. The acquisition of this library gives Cornell very great advantages for elucidating early American History, and it is expected that lectures upon American History, Social Science, and Literature will soon be begun. Professor Greene of Providence is to treat of the Revolutionary period, and Professor Theodore W. Dwight of Columbia College is to give a course on the period of the formation of the constitution. Lecturers on other periods are yet to be secured. Cornell is to be congratulated upon this acquisition and the enterprise of her president is worthy of great credit.

WOMAN'S EDUCATION.

The somewhat extended extracts which we publish in another part of this number will serve to show the opinions of the men quoted upon the question of higher education for women—a question which is continually forcing itself upon the attention of educators, and seems to be destined ere long to compel a solution of some kind. While these opinions are not as definite and pointed as could be desired, yet the fact that, such as they are, they have been uttered, is encouraging, and shows that the problem is forcing itself into notice, where it has heretofore evidently received but sparing attention. It will be observed that there is a general agreement on all sides that woman deserves, and ought to have, just as good advantages for acquiring an education as men. This is surely one point gained. But after this, difference of opinion begins to manifest itself. It is *not* agreed that woman should have the same kind of education as men, nor that she has the same natural capacities, nor that she should have a chance to acquire whatever she desires in the same colleges, in the same classes, and in the same recitation rooms. But it is worthy of notice, on this point that the opinions of those who are opposed to co-education are almost wholly theoretical. Those who have formed their opinions from observation of the practical workings of the attempts which have been made to give women better education are almost unanimous in their approval of it. If we may accept the testimony of President White President Welch and Professor Tyler, there is no longer any question in regard to the capability of woman to master the same course of study as men, nor as to co-education. This, it seems to us is a strong point and one worthy of the attention of educators everywhere. The giving of the higher education to women, and indeed co-education as far as tried, work well.

There is another point which seems worthy of attention. Professor Child thought that the admission of a single woman or of two or three women into a class of young men would not be desirable, and there seems to be good sense in the opinion. But if this be true, it only remains for those who are interested in the subject to apply in a body at the doors of any institution, in order to destroy the force of this objection. Those, therefore, who are ardent advocates of co-education have only to turn their energies to getting women ready to enjoy the advantages, which if the signs of the times indicate anything, will be open to them ere long.

There are other points in these extracts which are worthy of notice but space forbids. We would say, however, that the suggestion in regard to requiring from women the same rigorous preparation for admission to colleges, as is now required of men, ought to meet with earnest approval by all. We rejoice in the formation of the Association which was the occasion for the expression of the opinions we have been remarking upon, and hope it will carry out its ideas with vigor and earnestness. We shall look with interest for the reports of committees upon the various questions proposed. And meanwhile it would seem the part of wisdom in the case of all interested in the matter to give the problem, the patient attention it seems to deserve, to the end that their opinions may be less theoretical and less crude than some of those given in Boston a week since.

THE COMMISSIONER OF AGRICULTURE.

The Department of Agriculture at Washington seems to have rather lost than gained in reputation by the recent change in commissioners, if we may judge from some correspondence published in the *American Naturalist* for January, this correspondence being published at the request of Professor Asa Gray. The first three letters embrace the correspondence between Frederic Watts, the commissioner, and Dr. Parry, the Botanist of the Department. In the first of these, dated Sept. 27th, Dr. Parry asks written instructions as to whether letters on botanical subjects should be signed by him or by the commissioner. To this Judge Watts replies by summarily dismissing him. In the third letter Dr. Parry acquiesces in the decision and asks for some person to select the property of the Department from that belonging to him. Two months later Professors Torrey of Columbia, Gray of Harvard, and Brewer and Eaton of Yale, sent a joint letter to the commissioner asking Dr. Parry's reappointment. His reply says "My own self-respect and especially the interests of this Department forbid that I should reverse that which I did with care and reflection;" adding "Nor do I now desire to say anything about Dr. Parry, that might disparage him in the estimation of his friends." To this letter Dr. Gray answers: "It still appears to me that the friends of Dr. Parry are entitled to know the reason of his summary dismissal by you,—all the more so that your letter intimates, without directly asserting, some moral delinquency on his part." He also asks leave to print the correspondence in case the commissioner should decline to furnish his charges. The letter of Judge Watts in answer, is long and labored. What he says will be best appreciated by quoting from Professor Gray's letter which closes the correspondence:

You will permit me to remark, that the dismissal, without an hour's notice, of Dr. Parry from a position the duties of which he was thought to have performed acceptably to your predecessor, must of

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itself, if unexplained, cast an injurious reflection upon his character or conduct. Then your letter in reply to the memorial which solicited his recall, stating that the reasons for such dismissal were of a nature which it would have been as disagreeable for you to utter as for him to hear, and that you 'do not now desire to say anything about Dr. Parry that might disparage him in the estimation of his friends,'—all this certainly conveyed to my mind the conviction that some serious delinquency had been charged. It is with satisfaction therefore, that I have read your letter now before me, obligingly written 'to put [me] in possession of the whole subject.' I learn from it that the reasons for Dr. Parry's summary and ignominious dismissal relate to some details of form in the mode of conducting official botanical correspondence,—to a momentary loss of temper in the presence of one of your subordinates, (evinced by the mode in which he destroyed a letter of his which had been returned to him to be cancelled) and for which he duly apologized, —to the subscribing of a letter addressed familiarly 'My Dear Doctor'[evidently some botanical correspondent] by the phrase 'yours officially,'—that in some letters you found 'his mode of expression wanting in perspicuity,' (a fault into which more practiced writers may sometimes fall)—and finally, that you did not discover in Dr. Parry the kind or degree of botanical qualifications for the post which you were entitled to expect, and deemed the services of 'an herbarium botanist,' practically unimportant.

As your letter has relieved my own mind from a painful anxiety upon this subject, it may have the same effect upon others upon whose minds also your action had left the alternative of supposing, either bad conduct on the part of one hitherto highly esteemed, or of very hard usage towards him (it was thought through some misrepresentation of him or some misapprehension of yours). I think it proper and just, therefore, to make use of the permission you grant, and to take the responsibility of making public, in scientific circles, first, the correspondence between Dr. Parry and yourself, and second, that between ourselves.

After this letter, there follows some extracts taken from certain Reports of the Board of Trustees of the Pennsylvania Agricultural College, made by Judge Watts himself, in order to show the " perspicuity " and elegance with which the Commissioner writes. From these extracts it would appear that Mr. Watts, like some other men, values most in others that in which he, himself, is particularly deficient.

The correspondence clearly shows an utter want of appreciation on the part of the Commissioner, of the needs of the Department or even of its proper province. We feel with Dr. Gray, that his course " does not seem calculated to win the confidence of scientific men in the present administration of a department in which they naturally feel much interest."

PROFESSOR YOUNG'S LECTURE.

The third of the course of Scientific lectures now being given in this city, was delivered in Music Hall last Wednesday evening, by Professor C. F. Young, of Dartmouth College, upon "The Sun." The audience showed a continued interest in the course and listened with the most wrapt attention. Professor Young has a very pleasing style of delivery and his modesty and evident care for truth in all his assertions endue with extreme interest whatever falls from his lips. It was noticeable throughout the lecture that he preferred to understate rather than overstate anything in reference to his subject. In introducing his theme, Professor Young spoke of the preëminence of the sun over other physical objects. In Swedenborg's correspondence the sun was regarded, and quite properly, as the vicegerent of Deity, since to it are due all of our physical blessings, such as light, and heat, as well as other still more subtle influences. The winds are moved by the sun and the waters are propelled by him. The propelling force of our factories and locomotives and steam motors of every kind is naught but solar power at second hand, and even animal power is directly traceable to the sun. Still further, power of thought, intensity of passion, and vigor of action are dependent upon the sun. And, said the speaker, in saying this, I do not confound things that differ. I accept the difference commonly supposed to exist between mind and matter and believe they are separated by an impassable gulf. But the engineer who stands upon the locomotive and draws the throttle valve does not move the train which thunders behind him, nor, in like manner, does the mind whose duty is to superintend, to guide, and control, raise the arms to the head or put the foot forward upon its pathway.

The speaker next dwelt upon the scientific interest which has recently been taken in the sun and said that his intention was to give a brief statement of facts in reference to this body. He remarked that in preparing for this lecture he had been struck with the scantiness of our absolute knowledge in regard to the sun. Many of the ideas were founded upon hypotheses which were as yet unproved, and many of the problems are still wholly untouched. The first thing to consider was the distance from the earth to the sun which was now regarded as between 91,000,000 and 92,000,000 of miles; although in this statement there should be allowed a margin of error of 500,000 miles. Astronomers are looking forward to the transits of Venus in 1874 and 1882, to help to reduce this margin. But 92,000,000 of miles conveyes no definite idea to the mind, and it is therefore necessary to use illustrations to render it more comprehensible. If, said the lecturer, there was a sort of intermundane railway from the earth to the sun and our Pilgrim Fathers, at the time when they set out from England for this country, had started from the sun with the same point in view, and had traveled along this railway at the rate of forty miles an hour without stops,—since there could be no stations—they would be due here in 1883, or would be 363 years on the route. Or again; if a cannon ball going 2000 feet a second should start for the sun it would reach it only after the lapse of nine years. Or once more, if the medium were the same from the earth to the sun as on the earth, the sound of a solar explosion would only reach the earth at the end of fourteen years; so that not till 1886, could we know if we depended upon sound alone, what happened upon the sun a few weeks since. And yet across this tremendous chasm the sun exercises his power and receives responses. Not a change occurs upon the surface of the sun, but its influence is felt in the magnetic force here, and not an explosion occurs there, but the aurora borealis, either instantly or within a few moments suffers a change corresponding to the force displayed.

The lecturer then gave some interesting statistics in reference to the diameter, bulk, mass, and density of the sun, and remarked in reference to the solar gravity that the same body would weigh twenty-eight times as much upon the sun as upon the earth. So that a lady who weighed here one hundred pounds would there be as unwieldy as an elephant, her head alone weighing two hundred and fifty pounds.

From this point the speaker passed on to the condition of the matter of which the sun is composed. The smallness of its density makes it probable that it is wholly gaseous; but there are many different views.

The temperature of the sun must be enormous, and attempts have been made to measure it. But little reliance, however, can be placed upon these. They differ very widely and range from 67,000 (Zöllner) to 10,000,000 (Secchi) degrees Fahrenheit. But while we do not know the temperature we may pretty accurately measure the amount of heat which the sun radiates. Upon this point a number of illustrations were given. Thus a shell of ice one inch thick surrounding the sun at the earth's distance, would be melted in two hours and twelve minutes, and upon the surface of the sun, a shell of ice 40 feet thick would be melted each minute. Hershel estimated that if a rod of ice 45 miles in diameter were darted into the sun with the velocity of light it would never reach it. And again, if an ice embankment two miles square, extended from the earth to the sun, and all the heat of that body were concentrated upon it, it would be melted in one second, and converted into vapor in seven.

With regard to what maintains this furnace the speaker declared no one could tell. The climate upon the earth for 2000 years has indicated no appreciable diminution in the temperature of the sun and we cannot detect any progress in either direction. Several theories were given but none seemed satisfactory. The most plausible was that, founded upon the paradoxical statement that a body losing heat does not necessarily grow colder. Thus, a pail of water while freezing does not sink below the freezing point until all the water is frozen, and in like manner, the gases of which the sun is composed may be liquifiying, or in other words changing their molecular condition, and it will not decrease in temperature until these all become liquid. Then there may be a great change in temperature and another long period of equal heat while the mass of the sun is assuming a solid form. If this theory is correct, therefore, the evolution of heat will sometime cease.

The speaker then described the appearance of the surface of the sun—its granulations and its faculæ, and photographs were projected upon the screen exhibiting these appearances. The spots were next considered, and their mode of formation and appearance described and illustrated. The spots were affirmed to be cavities but the cause of their existence was said to be uncertain. The views of Secchi, Lockyer and Zöllner, were given but the lecturer was not prepared to adopt any of them. The difference in the time of the revolution of the sun upon its axis as deduced from the observation of spots near its equator and more remotely from it; and the distribution of the spots in belts, on both sides of the equator were then noticed. The periodicity of spots was also observed.

From this the composition of the sun was discussed. The spectroscope was briefly described and illustrated, the spectra of a few elements exhibited and the correspondence of the dark lines on the sun's spectrum with the bright lines of the spectra of elements, duly noticed. From these lines we deduce the presence in the sun's atmosphere of fourteen of the substances with which we are acquainted upon the earth, Iron recognized by 458, lines; Titanium by 200; Calcium, 75; Manganese, 57; Nickel, 33; Cobalt, 19; Chromium, 18; Barium, 11; Sodium, 9; Copper, 7; Magnesium, 7; Hydrogen, 4; Zinc, 2; and Aluminum, 2. But there are hundreds of dark lines in the solar spectrum which are as yet wholly unrecognized.

The protuberances, there identity with hydrogen, there peculiar shapes, and their explosions, were described and illustrated with photographs in a very lucid manner, and the corona, its spectrum, and the probability of the solution of the problem in reference to its composition by the recent eclipse expedition in India, were brought clearly before the audience. This closed a lecture rarely equaled in the agreeable presentation of its theme, in the amount of information which it contained, and in lucidity and care for accuracy in statement.

LITERARY.

Holt & Williams have nearly ready Baring Gould's legends of the Patriarchs and Prophets. These have been collected by the author from various uncanonical sources and some of the stories are said to be very surprising. . . . . Messrs. D. Appleton & Co., announce that, commencing with February they will become the Publishers of all the editions of Cooper's Novels. They issue about the first of the month a new edition of "The Last of the Mohicans," with illustrations by Darley. The edition will be printed from new stereotype plates and will be issued in paper covers. It will be followed soon by other of Cooper's novels, and the series will be sold for fifty cents each.. . . . Among other books to be published early in 1872. J. R. Osgood & Co., announce: "Yesterdays With Authors." By James T. Fields; "Bits of Travel." By H. H.; a new novel by J. W. Forest, entitled, "Kate Beaumont;" "The Music Lesson of Confucius, and other Poems." By the author of Hans Breitman's Ballads; "Gaudeamus," humorous poems translated from the German by the same author; "Mountaineering in the Sierra Nevada." By Clarence King; "Rise and progres of the Slave Power in the United States,' Vol. I. By Henry Wilson; "A Dictionary of American Biography." By Francis S. Drake; and "Grif," a novel by B. L. Farjeon.

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Western & Company, of New York, propose to issue about the first of February, a weekly journal to be called "The Coal and Iron Record, whose object is sufficiently indicated by its title. It will be a sixteen page paper, and will be furnished in two volumes a year, at a subscription price of $3.00 per volume. It is to be under the business and editiorial control of Benjamin R. Western, well known as one of the originators of what is now the *Engineering and Mining Journal*, and one of the founders of the *Manufacturer and Builder*.

The *Connecticut School Journal*, which, after a period of suspension, was revived at the beginning of 1871, has again changed editors and publishers. The editorial staff now consists of Prof. I. N. Carleton, Principal of the State Normal School, and W. B. Dwight, assisted by a board of ten editors from different parts of the State. C. C. Chatfield & Co. assumed the publication of the *Journal* with the January number, and have brought it out in an enlarged and handsome shape. The *Journal* is evidently starting upon an enlarged sphere of usefulness, and under its present efficient management cannot fail of success.

We have received the first number of *La America Illustrada*, a new Spanish paper, published in New York. The paper is to be issued semi-monthly, on the eve of the sailing of the regular South American packets, and its design is to furnish the Spanish speaking people of the New World an illustrated paper in their own language. It is about the size of Harpers' *Weekly*, and the illustrations of the present number are of good quality. The terms of the paper, postage paid, are, for the United States, $4.50, and for the West Indies, Mexico, and South and Central America, $5.00, in gold. It announces that one of its aims will be to cultivate the friendly relations now existing between the republics of the Western Hemisphere.

The Magazines for February are most of them on our table. The *Atlantic* opens with the second installment of "Septimius Felton" by Hawthorne, and Miss Alice Asbury contributes "Wagner and the Pianist Bülow;" James De Mille, a continuation of "A Comedy of Terrors;" and T. W. Higginson, a very pleasing sketch, "In a Wherry." James Parton carries Jefferson through his life as a Law Student; Alice Dutton describes "The Castleworth Tragedy," a case of slave killing in Virginia; Edward Atkinson treats of "The Visible and Invisible in Protection," to the detriment of protection; and Oliver Wendell Holmes continues his charming sketches, "The Poet at the Breakfast Table." "The Diversions of the Echo Club" reaches its second paper. In the matter of Poetry, we have "There was a Rose," by Mrs. S. M. B. Pratt; "Morrice Lake," by William Ellery Channing; "Petronilla," by Elizabeth Stuart Phelps; and "A Norse Stev," by Hjalmar Hjärth Boyesen. There are also book reviews, and a few pages each devoted to Art, Music, Science and Politics.

Scribner's opens with an illustrated poem, "The Fox Hunters," and gives the second article illustrated, on the Wonders of the West," in which F. V. Hayden tells more about the Yellow Stone; also a long descriptive article with illustrations about "The Mormons and their Religion," by R. H. Seely, and another illustrated article, "The Charities of the Fatherland," by William Wells. An anonymous author treats of "The Defects of the National Banking System," in which he considers the irredeemability of the bank circulation its worst feature; Charles Dudley Warner, contributes a charming "Back Log Study," in which he almost rivals the author of "The Poet at the Breakfast Table" in the *Atlantic*; Saxe Holm tell "How One Woman kept her Husband;" Lulu G. Noble gives "A Small Piece of the Woman Question;" Mrs. Grenough gives an account of her first hearing of Nilsson which is pleasant reading; and Mrs. Olliphant's and George McDonald's stories are continued.

The *Galaxy* opens with a paper by Alexander Young, on "Louis Napoleon in England," descriptive of the life of L. N. B. when he was an aspirant for the French throne; and John Ruskin is brought to notice both by a portrait and character sketch by Justin McCarthy; Mr. Isaac Butts, discusses the "Management of Cities with reference to the frauds in New York;" and General Custer treats in a second paper very pleasingly of his "Life on the Plains." The second paper on "Fifteen Years a Shakeress" and four chapters of the "Eustace Diamond," are presented; John Tyler's administration is reviewed under the head "Suggestions of the Past;" and Alice Gray, describes "My Russian Friends." The other articles are "A Trifling Mistake," by Isabelle Amory; "Ginevra," by Carroll Owen; and "The Blessings of Sudden Death," by Junius Henri Browne, in which the common view is combated. There is the usual variety of Poetry, Drift Wood, Scientific Miscellany, etc. In the "Club Room," Eli Perkins has a very funny paper on "cant words."

Lippincott's opens with chapters 10 and 11 of "Scrambles among the Alps," by Edward Whymper's, and this is followed by an illustrated article on "The First American Art Academy." A new story by William Black, is commenced in this number, entitled, "The Strange Adventures of a Phaeton;" Kate Hilliard treats of "Victor Hugo as a Dramatist, Novelist and Poet;" and Edward B. Neally, describes "A Gold Hunt on the Yellow Stone." There are also chapters 2 and 3 of "Aytown;" "The Pompeian Necklace;" "The Case of Martin Greene;" "Pidgie Brant;" and the Monthly Gossip and Book Reviews.

The *Eclectic* present a good variety from the foreign Periodicals. From the *Fortnightly Review* there is an article on "Church and State in Italy;" and from *Blackwood's* one on "Coleridge." "A Prussian Passion Play, by Mathew Arnold," and "The Last Tournament," by Tennyson are given. There is also from the *Revue des Deux Mondes* the conclusion of "A Frenchman's Voyage round the World in 120 Days;" and from *Chamber's Journal*, "Paper Making in Japan." The number has a full length portrait of Lord Lisgar and a brief sketch of his life by the editor. There are also several other articles.

Reviews.—Messrs. J. B. Lippincott & Co., of Philadelphia, have made an arrangement by which they become the American agents of the *Contemporary Review*. It is to be issued monthly and is furnished for 75 cents a single number or $7.50 a year. The December number is before us. It contains a most valuable series of articles; among which may be mentioned Tennyson's "Last Tournament;" "Yeast," by Professor Huxley; "George McDonald," by Henry Holbeach; "The Secular Studies of the Clergy," by the Rev. Richard F. Litledale; a discussion of "Things Needful for the Improvement of the Working Classes," by Thomas Wright, the Journeyman Engineer; an article by Max Müller; "On the Philosophy of Mythology; and a Survey of "The Crisis of the Catholic Church in Bavaria," by a Bavarian Catholic.

The January number of the *American Church Review*, the quarterly exponent of the Episcopal Church in America, has appeared. This is the first number issued by the new proprietors of the *Review*, M. H. Mallory & Co., of Hartford, Conn., and it contains: "The Church and the Laboring Classes;" "Scientific Speculation *vs.* Theological Interpretation;" "Remarks on the American Church," by the Bishop of Western New York; "Deaconesses:" "Modern Thought in its Relation to the Person of the Lord Jesus Christ," an article founded on the various lives of Christ from Strauss to Beecher. "Munificence in Giving—A Present Need of the Times;" "The Changes in England during half a Century;" "Regeneration in Baptism;" and "The Analysis of the Sunbeam."

Schiller's Poems.*—Of the rich stores of German Literature none holds a warmer, dearer place in the scholars heart than the works of Schiller. In his day he was the poet of the people; but his daily bread had to be coined from his brains, in the wearisome toil of the editorial chair, and hence many of his most valued productions were in a sense ephemeral. A magazine, like a daily newspaper is often a gulf to entomb the rarest thought gems. So that while they serve to refresh and enchant the reader for a moment, they are soon forgotten or pushed aside in the clamor for the newest and latest. Thus it was to great an extent with Schiller's poems. At intervals appreciative minds have transplanted these singly, but poesy in a foreign tongue effects souls like musical compositions, each one vibrates to a different key; and again what charms in the measure and construction of verse in one tongue is lame and halting in another. The finest touches of the poet's pen, like some flowers, only give their full strength and sweetness in their native soil. To place in the hands of the American readers these minor jewels of Schiller's Poetry in their finest dress, one which comes the nearest to their original garb, and gives us the truest idea of the German Poet, is the purpose of the book before us. The translations have been selected from those of the finest scholars of the English language—by Carlyle, Bulwer, Channing, Dwight; and many others of equal rank as writers. All the minor poems of the great poet are here collected, including some that were suppressed by the Government. They are all placed side by side with the original, so that the student may compare and analyze each.

It was a bold deed to issue them in this way. And none but a thorough scholar of both languages would thus openly court criticism, but the editor has by this means given a work that will be invaluable to the student of either language. We are presented with a sketch of Schiller's Life, which also appears in both the original and translation, by his friend "Koerner" who was intimately accquainted with him for a long period of years. Every poem has been carefully revised by the complier, and when several translations of any individual one have been found, correctness has been the standard, pure English being the aim as well as pure German. In some cases, as in the "God's of Greece" portions of which were suppressed, the suppressed stanzas are supplied in a duplicate insertion, and translated by the editor.

The foot-notes and those at the end of the work give us a key to many of the poems that even a close student would fail to catch easily. Of all the poems the one best known is the "Song of the Bell" and of this we have two translations.

Schiller was pre-eminently an idealist and for that reason we of this practical country need to study him. To facilitate that study has been the design that produced this book. To quote the editor's own words in the preface. "If the American would impart to the German some of his realism, in return for some of the German's idealism, it would tend to make them both happier, better contented with themselves and the world."

*Schiller's Poems. Edited and translated by Henry D. Wireman. Author of Gems of German Lyrics &c. Philidelphia; Ig. Kohler 202 North 4th st. 1872.

BOOKS RECEIVED.

FROM HARPER BROS. *Science for the Young.* Vol. III. Water and Land. By Jacob Abbot. $1.50.

Border Reminences. By Randolph B. Marcy. $1.50.

Travels Round the World. By a Boy. Edited by Samuel Smiles Illustrated. $1.50.

Character. By Samuel Smiles. $1.50.

Reading Without Tears. By the author of "Peep of Day."

Physiology of the Soul and Instinct, as distinguished from Materialism. By Martin Paine, A.M., M.D., LL.D.

The Life and Times of John Wesley. Vol. I. By Rev. L. Tyerman.

The American Baron. By James De Mille. $1.00.

Blade of Grass. By B. L. Farjeon. 35c.

Fair to See. No. 370. Library of Select Novels. By Lawrence W. M. Lockhart. 75c.

FROM J. R. OSGOOD & Co. *The Divine Tragedy.* By Henry W. Longfellow. $1.50.

The Last Tournament. By Alfred Tennyson. $1.25.

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Poems. By William Allen Butler.

FROM HOLT & WILLIAMS. *History of English Literature.* Vol. I By H. A. Taine. $5.00. *The Mystery of Orcival.* By Emilie Gaboriau. 75c.

FROM D. APPLETON & Co. *Ballads of Good Deeds and other Verses.* By Henry Abbey.

FROM GINN BROTHERS. *Logarithmic and Trigonometric Functions.* By James M. Pierce.

FROM C. C. CHATFIELD & Co. *Logical Praxis.* By H. N. Day. $1.00.

PAMPHLETS RECEIVED.

Text Books on Geometry. By Professor C. H. Judson: J. B. Lippincott & Co. The National Elgin Watch Company Almanac, 1872; The New Idea, Universal Coöperation: The New York News Company; Public Ledger Almanac, 1872: Philadelphia: Geo. W. Childs; The Evans Embezzlement, Philadelphia, 1872. Annual Reports of the President and Treasurer of Harvard College, 1870-71; Register of the Phi Kappa Sigma Fraternity; The University of Minnesota Almanac, 1872; The Devil: American News Company.

Catalogues of Pittsburg Female College, 1870-71; Vermont State Normal School, 1871-72; and Lehigh University, 1871-72.

ALUMNI REUNION,

DARTMOUTH ALUMNI IN BOSTON.

The annual reunion of the Alumni of Dartmouth college resident in Boston and vicinity, was held in the Revere House, Thursday evening, January 18th. Between sixty and seventy of the graduates of the college were present including Chief Justice Brigham, President Smith, Professor E. D. Sanborn, Professor Charles A. Young and the Hon. John Wentworth of Chicago. Speeches were made by Judge Brigham, President Smith Professor Sanborn, Professor Young, the Hon. Harvey Jewell, Mr. Putman of Worcester, Mr. Burleigh of Great Falls, General Oliver of Salem, Mr. Philbrick of Boston, Mr. Cogswell of Yarmouth and Mr. Healy. It was stated that during the last eight years, by the various departments of the colleges more than four hundred thousand dollars have been received. The evening was spent very pleasantly by all present. Officers of the association for the ensuing year were elected as follows: President, John P. Healey; secretary, Walbridge A. Field; executive committee, Harvey Jewell, A. A. Ranney, J. D. Philbrick, L. F. Brigham, Mellen Chamberlain, A. B. Coffin, D. H. Mason, William Reed, G. H. Tucker.

COLLEGE RECORD.

Dartmouth College, (Hanover N. H.)—During Professor Young's visit to Europe last year, he purchased a quantity of philosophical apparatus, the most of which has arrived at Hanover within a few weeks. Many of the articles were made to order from designs furnished by the professor himself. Among other things the following are worthy of mention: A new electric lantern which with its accompaniments cost $350; an apparatus for spectrum projection; Koenig's manometric flame; Lissajou's apparatus for the combination of vibrations; a large quantity of new acoustic apparatus, including a complete set of resonators and a double siren; a Melloni's apparatus for measuring heat; a fine tangent galvanometer; a reflecting galvanometer, said to be one of the best ever imported; a rheostat; a set of resistance coils; a new Holtz "influence" electrical machine, and other important electrical apparatus; and in the department of optics, two Nicol's prisms, one and a half inches in diameter by four in length; and a polariscope with all the appurtenances necessary for the exhibition of the phenomena of polarization.

Stevens Institute of Technology, (Hoboken, N. J.)—The following course of lectures is to be delivered at the dates specified in the Lecture Hall of this young and flourishing institution. The tickets for the course are one dollar, and for a single lecture twenty-five cents. The subjects it will be observed, are technical and the names of the lecturers are a sufficient guarantee of the value and correctness of the matter presented. Each lecture will be fully illustrated by general and detailed drawings: 1. By Mr. A. L. Holley, C. E., on "Bessemer Machinery."—Tuesday, February 6th; 2. By Mr. A. L. Holley, C. E., on "Modern Rolling Mill Machinery."—Thursday, February 8th; 3. By Prof. J. E. Hilgard, on "Methods of Precision in Weighing and Measuring"—Friday, February 16th; 4. By Mr. Coleman Sellers, on "Transmission of Motion."—Monday, February 19th; 5. By Prof. R. H. Thurston, on "The History of the Steam Engine and the Direction of its Future Development."—Thursday, February 22d; 6. By Prof. R. H. Thurston, on "The History of the Steam Engine and the Direction of its Future Development."—Tuesday, February 27th.

Washington University. (St. Louis, Mo.)—The new building for the Polytechnic school of this institution is now finished. It is a plain four story building with a mansard roof and is heated throughout by steam. As the building is entered in front, the large room on the right is occupied by the State Geological Cabinet, quite an extensive collection of minerals and rocks, to which the students have access. On the left are two small rooms, one being used as the private office of the Dean of the Scientific School, the other a reception room. Besides these two, there is a larger one which is used as a chapel for College and Scientific students.

In the second story is the Law Library and Reading Room which is furnished completely with every thing convenient for the Law Students. On the west side of the hall in the same story, are two large recitation rooms, one for Professor Woodward, the other for Prof. Potter, who has put up a spacious cabinet, running the length of one side of the room, for specimens of minerals, ores, etc. On the walls are hung drawings and pictures of blast furnaces and arrangements used by the miner and metallurgist. In the third story, there is a large room to be used as a physical laboratory, which will not be furnished for some time. On the other side, are two more recitation rooms. In the two large and very light rooms in the fourth story, are placed the scientific students. All the rooms in the building are light, airy and easy of access. In the basement are to be made the two assaying rooms, and one small room, on the east side of the basement, is to be used as a workshop. The building will be formally opened with appropriate exercises about the 22d of February.

Wabash College, (Crawfordsville, Ind).—The following statement in reference to this flourishing institution, is from an authentic source, and will prove interesting to all our readers. The College still needs a dormitory, a refectory, and some other buildings, besides an enlargement of its permanent funds, for the support of teachers, and for the increase of the library and philosophical apparatus. The present condition of the institution would seem to offer every encouragement to wealthy men to unite in supplying these wants. The funds are provided, and in the treasury, for the completion of the south wing of the main College building, as also of the portico. When finished it will be a noble building, and adequate to the wants of the College, for recitation rooms, laboratory, cabinet philosophical rooms, society halls, chapel and library, for a long time. The roofers are now at work on the wings.

The spacious and beautiful gymnasium has been projected and inclosed by the energy of Col. Carrington. The cost of this fine building has been provided for thus far, or nearly so. The addition to the facilities of the College furnished in these buildings still leaves tne College out of debt.

During the last six months the College has come into possession of its part of the estate of the late John C. Baldwin, of Orange, New Jersey, amounting to $28,000. This money is now at interest in secure investments, and by direction of the testator its income is to be used in assisting promising young men who are struggling against poverty to get an education in Wabash College the recipients being, by the terms of the will, members of some Evangelical Church that holds the divinity of Christ as taught in the Presbyterian Church of the United States. The testator further guards his charity by providing that it shall be distributed among those whose scholarship and other attainments give promise of wide usefulness.

The income of the Baldwin Fund is already aiding some men, and must become a great power in Wabash College.

To these facts may be added another: that since 1864 the permanent cash funds of the College, aside from those just mentioned, and those raised to build the north and south wings, and the gymnasium, have been increased from about $30,000, minus a debt of $10,000, to about $105,000, all of which is advantageously invested. There are also several thousand acres of wild land belonging to the College, which are constantly growing in value.

There are several fully endowed scholarships in Wabash College which enable the Faculty and Trustees to aid many young men who are not able to pay their tution; so that no worthy man need turn away for want of such help. It does not seem necessary to provide free tution for the sons of the rich, but only for those who, in respect to property, are less fortunate.

There are in operation three boarding clubs, which are admirably managed, and furnish boarding at cost at about two and a quarter dollars per week. These clubs are in no sense *charitable* institutions, but *mutual associations* for getting good *boarding as cheap as possible.* They all insist on pre-payment for the entire term, in order that with such capital in hand they may purchase staple articles at the best advantage. For several years the system has worked with great success; and with such a *refectory* as the Board of Princton Theological Seminary has built for its club, it would be one of the best elements in the Wabash College system of means.

Wesleyan University, (Middletown, Conn.)—The winter term of Wesleyan opened Jan. 4th. The students were back in pretty good time, notwithstanding the panic of last term. The truth about that affair is as follows: About ten days before the close of the term, two gentlemen were taken with varioloid; the report spread into the city, rendering the citizens afraid of students, so that when some attempted to engage board they were refused. This fact, and the expectation of being cut of from communication with the city, caused those of the students who had the needful, to leave as quickly as possible. But thirty were in college the next night. The infected portion of the building being put in quarantine the college authorities thought that sufficient precaution had been taken and therefore refused to dismiss the college though all who wished to leave were excused. The term continued and closed regularly with the term examinations of those who remained; and it seems to be true that ample precautions were taken, for no one either of those who went home or of those who remained, has been sick.

Those who took their departure so abrubtly, on arriving back were surprised to find written examinations staring them in the face, which were concluded last week.

The old bell that for so many years has called to college exercises has at length ceased to sound, and now the hours are denoted by a clock which has lately taken its place in the chapel steeple. The clock is the gift of the Hon. Jacob Sleeper of Boston, and the bell,—the best in the city—of W. C. Squire, '59.

The "Commons" is in operation with about fifty boarders, and according to report, is doing well.

Prof. Hibbard delighted a fine audience in McDonough hall, Thursday evening with readings from Shakespeare, Dickens, Trowbridge, Poe, Mrs. Stowe and others.

The following from the *Argus* needs no comment: The barge owned by the '74 boat-club has been broken by a small boy dancing on the bottom of the boat. It was valued at $100. This is a total loss to the club

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and proves that it is of no use to try to keep up our boating interests unless we have a boating-house. Let all who see the new boating book published in Troy read the boating item from Wesleyan *cum grano salis.*

While other colleges in New England are losing students it is noticeable thatWesleyan has now within her walls as many as she ever had, and in fact that the number of students is steadily increasing.

The following are the appointments for 22nd of February celebration: Orator, W. L. Phillips, '72; Reader ofFarewell Addresses, H. H. Coston, '73. For Class day: Salutatory, S. G. Cushing; Class President, E. A. Blake; Orator, C. F. Rice; Poet, Jno. A. Case; Class Historian, E. M.Mills; Personal Historian, Perry Chandler; Prophet, D. R. Baker; Address to College, F. M. North; Flag Ceremony, A. E. Hall; Pipe Presentation, B. S. Clark; Pipe Reception, D. C. Porter; Advice to Class, R. J. Round; Chaplain, G. W. Wright.

Warren of Cambridgeport, Mass., is photographer.

COSINE.

Wesleyan University, Middletown, Conn., Jan., 22, 1872.

Harvard College, (Cambridge, Mass).—A stated meeting of the Board of Overseers of Harvard College was held in Boston, January 10th. After transacting some business of minor importance the election by the corporation of Thomas H. Chandler as professor of mechanical dentistry was concurred in. Concurring action was then taken upon a statute of the corporation in reference to the establishment of an Academic Council, and in reference to degrees, etc. The statute in reference to the Council, makes that Council consist of the president, professors, assistant professors, and adjunct professors of the University; and the function of this newly created body is to recommend to the president and fellows, candidates for the degrees of Master of Arts, Doctor of Science and Doctor of Philosophy.

The statute in reference to degrees is quite lengthy but the importance of its provisions seems to warrant us in giving it in full. It is is as follows:

Voted, That the degree of Doctor of Philosophy and Doctor of Science be established in Harvard University.

"*Voted*, That the Degrees of Master of Arts and Doctor of Philosophy be open to Bachelors of Arts of Harvard College, and to Bachelors of Arts of other colleges who shall have satisfied the college faculty by examination that the course of study for which they received the bachelor's degree is equivalent to that for which the bachelors degree is given in Harvard College, or shall have passed such additional examinations as that faculty may prescribe.

"*Voted*, That the degree of Doctor of Science be open to Bachelors of Science of Harvard University, and to Bachelors of Science and Bachelors of Philosophy of other institutions who shall have satisfied the faculty of the Lawrence Scientific School by examination that the course of study for which they received the bachelor's degree is equivalent to that for which the degree is given in Harvard University, or shall have passed such additional examinations as that faculty may prescribe.

"*Voted*, That the academic council be authorized to recommend for the degree of Doctor of Philosophy candidates otherwise properly qualified who, after taking the bachelor's degree, shall have pursued at Harvard University for two years a course of liberal study approved by the academic council, in any one of the following departments,—philology, philosophy, history, political science, mathematics, physics or natural history,—shall have passed a thorough examination in that course, and shall have presented a satisfactory thesis.

"*Voted*, That the academic council be authorized to recommend for the degree of Doctor of Science candidates, otherwise properly qualified, who after taking their bachelor's degree shall have resided at least two years at the University, and have pursued during three years a course of scientific study, embracing at least two subjects and approved by the academic council, and shall have passed a thorough examination upon that course, showing in one of the subjects special attainments, and shall have also made some contribution to science or some special scientific investigation; provided, however, that a course of study of two years only shall be required of candidates who are both Bachelors of Arts and Bachelors of Science of Harvard University.

"*Voted*, That the academic council be authorized to recommend for the degree of Master of Arts candidates, otherwise properly qualified, who after taking the bachelor's degree shall have pursued for at least one year at the University a course of liberal study, approved by the academic council, and shall have passed a thorough examination on that course.

"*Voted*, That the academic council be authorized to recommend for the degree of Master of Arts candidates, otherwise properly qualified, who shall pursue at the University for at least one year after taking the degree of Bachelor of Laws or Bachelor of Divinity in Harvard University, a course of study in law or theology approved by the academic council, and shall pass a thorough examination on that course.

"*Voted*, That the academic council be authorized in examining the qualifications of candidates for degrees, to procure the assistance of officers of instruction and government who are not members of the council.

"*Voted*, To open the elective courses of instruction in Harvard College to Bachelors of Arts.

"*Voted*, That the preceding nine votes be communicated to the board of overseers, that they may consent thereto if they see fit."

In ratifying this statute of the corporation and that in reference to the academic council, the Board of Overseers took occasion to adopt the following vote:

"*Voted*, That, for Bachelors of Art of Harvard College, and Bachelors of Science, Laws and Divinity of Harvard University, residence or study at the University may be partly or wholly dispensed with, at the discretion of the academic council, as a condition for receiving a higher degree."

The next meeting of the Board will be held on the 14th of February.

Yale College, (New Haven, Conn.) — Important action looking to the future development of Yale has taken place during the week past, and is detailed in brief below:

ORGANIZATION OF THE WINCHESTER OBSERVATORY.

On Thursday last the Trustees designated for the charge of the Winchester Observatory, met for the first time, and perfected their organization. The meeting was held at the house of Mr. Winchester, adjacent to the Observatory lot. Most of the time was spent in the formal technical matters of detail which are uninteresting to the public. By-laws were adopted, and officers chosen. Two committees were appointed, one consisting of the astronomers and mathematicians to have regard to the Scientific work of the Observatory; the other consisting of the other members of the Board to look after the business interests. A careful plane table, survey of the plot is in progress.

MISCELLANEOUS MATTERS.

At a meeting of the senior class, held last Saturday. D. N. Beach, South Orange, N. J., was elected class poet and E. S. Lines, Naugatuck, Conn., Class orator. At the same meeting it was voted to revive the custom of giving the class cup, and H. W. B. Howard, Brooklyn, N. Y.; F. T. Du Bois, Springfield, Ill.; and C. Campbell, Bath, N. Y., were elected a committee to take the matter in charge. A class ball, to be given during the third term was voted, and F. H. Baldwin, New York city, L. S. Boomer and W. H. Bradley, Chicago, Ill.; D. B. Delavan, New York city; J. W. Kirkham, Springfield, Mass.; L. G. Parsons, St. Louis, Mo.; and A. H. Robertson, New Haven, Conn., were appointed a committee therefor. For class day committee, H. W. Cragin, Lebanon, N. H.; L. E. Curtis, Oneida, Ill.; J. K. Du Bois, Springfield, Ill.; C. P. Smith, New York city; and D. J. H. Wilcox, Port Richmond, N. Y., were appointed. This class have thus far subscribed toward a class library fund, the liberal amount of $1,823. The subscriptions range from $200 to $10 each.

The chemical lectures to the seniors began last week.

The third of the Berkeley sermons was delivered by Rev. Dr. Rylance last Sunday evening. The house was filled again, and the sermon fully sustained the reputation of this popular series. The fourth sermon will be preached next Sunday evening, by Rev. Alexander H. Vinton, D.D. of Boston. It is expected that the college choir will have charge of the music.

The third of the lectures on Greek Sculpture was given last Monday evening. The audience was as large as on the occasion of the previous lecture, and the interest in the course seems to be very great. Satisfaction and approval is freely expressed on all side.

The day of prayer for colleges was duly observed last Thursday. All lessons after the morning one were dispensed with, and at 11, A.M. ex-President Woolsey addressed the seniors, Professor Harris, the juniors, Professor Northrop, the sophomores, and President Woolsey the freshmen. A union meeting was held at Marquand chapel at 3 P.M. which was well attended. The Berkeley Association was addressed by Rev. Mr. Lobdell of New Haven.

The College Library is now receiving from the patent office, a series of volumes entitled "Specifications and Drawings of Patents." These volumes are issued weekly beginning with last July. Each week forms a large volume and they contain accurate drawings and full specifications of every article upon which a patent is granted. But a limited number of these volumes are printed and they are accompanied by a certificate form the Commissioner of Patents vouching for their accuracy, etc.

The class of '73 have during the week past, after votings almost innumerable, succeeded in electing another member of the *Lit.* Board, H. W. Lyman, Northampton, Mass. The class being unable as yet, to agree upon the fifth man, it is reported that the present *Lit.* editors will appoint some one to occupy that place. There has been considerable electioneering, but as we understand not much bad feeling.

YALE PERSONALS.

'23, BLAGDEN.—Rev. Geo. W. Blagden, D.D., began the New Year with tendering his resignation of his pastorate of Old South Church in Boston, to take effect next fall when the 36th year from his installation will be completed. He is 70 years old, and a native of Washington city, D.C. He was ordained pastor at Brighton, Mass., Dec. 25, 1827, and dismissed Sept. 8, 1830; installed pastor of the Salem St. Church, Boston, Nov. 3, 1830, and dismissed Sept. 5, 1836; installed pastor of the Old South Church, Sept. 28, 1836. For nearly 15 years Rev. Jacob M. Manning, D.D., has been colleague pastor with Dr. Blagden in the Old South Church.

'35, COLTON.—Rev. Aaron M. Colton, who has been pastor at Easthampton, Mass., for nineteen years, recently resigned, but at the request of his congregation has withdrawn his resignation.

'39, TARBOX.—Rev. Increase N. Tarbox commenced last week a course of ten lectures on Congregationalism at Andover Seminary.

'41, WILLIS.—Richard Storrs Willis writes quite a long letter to the New York Evening *Post*, in which he claims that the honor of founding the first religious newspaper in the country, the Boston *Recorder*, belongs exclusively to his father, Mr. Nathaniel Willis, and not at all to the late Sidney E. Morse (Yale, '11), as has been claimed. Mr. Willis gives a very connected narrative, and if the case is as stated, undue honor has been ascribed to Mr. Morse.

'52, BINGHAM.—Rev. J. F. Bingham, formerly a Congregational minister was ordained Aug. 16, 1871, into the clergy of Episcopal Church.

'56, BACON.—Rev. George Bacon occupied the College pulpit both morning and evening last Sunday.

'57, DEFOREST.—Henry S. DeForest was installed as pastor of the Congregational church in Council Bluffs, Iowa, on the 4th of January.

'58, HUBBELL.—Rev. William S. Hubbell has received a call to the Franklin street church in Somerville, Mass.

'61, SILL.—E. R. Sill, the poet, who made such a sensation among the critics some time since, has a prose article in the last number of the *University Echo*, printed at the University of California, upon "Heroic Conservatism."

'63, SCOTT.—H. W. Scott, who recently died in Southbury, Conn., left the bulk of his property to Yale College.

'63, SHEPARD.—Dr. Charles U. Shepard, Jr., of Charlestown, S. C., was married in Brooklyn, Jan. 17, to Miss Ellen Humphrey, daughter of the late Hon. James Humphrey.

'67, GREENWOOD.—Thomas Greenwood is at 33 Grand Street, Jersey City.

'67, TURRELL.—Edgar A. Turrell is practicing law at No. 194 Broadway, New York.

'67, HARDING.—W. B. Harding is "Associate Rector" of the Stamford Institution for boys now in its 22d year.

'68, MCKINNEY.—Wm. A. McKinney is Corresponding Secretary of the N. Y. State Council of Reform. Office 486 Broadway, Albany, New York.

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'69, MANNING.—David Manning, having regained his health, has returned to the study of the law, in the office of his brother-in-law, A. T. Titus, of Worcester.

'69, THAYER.—J. R. Thayer has been admitted to the bar in Worcester, and is now practicing as a partner of W. A. Williams, of that city.

'69, GILBERT.—J. H. Gilbert has since graduation been studying law in New York, both in an office and in the Law School. He has spent the last two summers abroad. The last trip was necessitated by an attack of inflamatory rheumatism. He expects to practice his profession in N. Y., and his address is 166 Remsen Street, Brooklyn.

'69, WORKMAN.—W. H. Workman, who has been pursuing the study of medicine at the Harvard Medical School the past two and a half years, has been appointed one of the medical house officers of the Massachusetts general hospital, for the ensuing year. The term of service commences in May, 1872. He is now acting as assisting to the surgeon of out patients at said hospital.

'69, BURNHAM.—Married Nov. 23, 1871, at Kinsman, Ohio, Henry H. Burnham and Miss Sophia L. Bennett.

'70, CARPENTER.—Z. Taylor Carpenter of New London, Conn., was recently registered in Paris.

'70, FELLOWS.—H. Parker Fellows is studying law in the office of T. L. Nelson, of Worcester. He expects to finish at the Harvard Law School in the fall.

'70, DEFOREST.—R. W. DeForest, who has been studying at the University of Bonn, has returned, and was admitted to practice as attorney at law at the recent examination before the supreme court of New York. His address is, care of Weeks & Forster, 58 Wall street. New York.

'70, CUMMINGS.—J. H. Cummings is Principal of the High School at Fort Wayne, Ind.

'70, PALMER.—W. L. Palmer. Jr., sailed Dec. 2d, 1871, on the Oceanic for Liverpool, expecting to spend the winter in traveling abroad.

'71, MASON.—A. B. Mason who recently returned from the western plains, where he had been with Prof. Marsh's party has accepted a position on the editorial staff of the Chicago *Tribune.*

'71, JACKSON.—Schuyler B. Jackson is studying law in the office of Stone and Jackson, Newark, N. J. It is also affirmed that he has been elected professor of political economy in the Newark Business College, and is now inducting several young Japanese into the mysteries of that science.

'71, LANDMESSER.—L. B. Landmesser is at present studying law in the office of L. D. Shoemaker (Yale '40) M. C., at Wilkesbarre, Penn.

'71, HENLEIN.—A. F. Henlein is studying law in his native place, Greenville, Penn.

'72, LEWIS.—Alfred E. Lewis who graduated at Williston, January in 1866, and was formerly connected with Yale '72, is a real estate agent in New York city. Office 544 Broadway and 193 Montague St. Brooklyn.

GLEANINGS.

PERSONAL.

— Dr. John Blythe, professor of chemistry in the Queen's College, Cork, Ireland, has just died of apoplexy.

— President Webb, of the College of the City of New York, has been reëlected president by the board of trustees.

— Dr. Ezekiel Gilman Robinson, of the Rochester Theological Seminary, was elected president of Brown University, last Wednesday.

— Professor Willard, of Cornell University, recently delivered an address before the State Dairyman's Association, at Rutland, Vermont.

— Miss Minnie Swayze, late professor of elocution in Vassar College, delivered an interesting lecture in Tremont Temple, Boston, Monday evening last, on "Woman and Her Abilities."

— President Alexander Burns, of Simpson Centenary College, at Indianola, Iowa, has issued an appeal to the ministers of the DesMoines conference, asking them to take up collections in their congregations some time in February, for the benefit of students who need pecuniary assistance and who are looking forward to the ministry.

— The professors in the Bangor Seminary have issued an earnest appeal in reference to the gradual but constant diminution of the number of young men preparing for the ministry. Only two from Maine have entered any theological seminary out of the State, and only two from the State have entered the Bangor Seminary.

COLLEGE.

— Washington University, at St. Louis, Mo., is in need of a library.

— The University of Alabama at Tuskaloosa, has now about seventy students.

— Movements are on foot looking toward introducing alumni representation into Iowa State University.

— There are three hundred students (three of whom are women) engaged in the study of law at the University of Wilmington, Del.

— Quite a number of applications for admission were made at the opening of the Spring term of Bowdoin College a few days ago.

— At Clark University, located at Atlanta, Georgia, board can be obtained in private families at $11 per month, including washing.

— Graffula's Seventh Regiment Band, of New York, has been engaged for Commencement, at Dartmouth. Commencement occurs June 27.

— The work on the Chandler Scientific Building at Dartmouth, which has been delayed somewhat by the cold weather, is now going forward rapidly.

— The "models" from the Patent Office, to the number of about 1,000, for Dartmouth College, have arrived at that institution. They are to be placed in Culver Hall.

— The spring term at Trinity College was opened January 18. This term continues till Commencement (July 11), being divided by a recess from the 18th to 29th of April.

— Burritt College, located on Cumberland Mountain seven miles from the stage-line between McMinnville and Sparta, is said to be in one of the healthiest places that can be found in Tennessee.

— Oxford lately numbered among its students the Duke of Genoa and Prince Hassan of Egypt. At the present time a distinguished member of the Siamese Government is an undergraduate at Balliol.

— In consequence of the resignation of M. P. White, orator of the class of 1872, at Harvard, a meeting of the class was held on Thursday evening, January 18, and James Holden Young, of Cambridge, was elected to fill the vacancy.

— The Library of the Agricultural Department at Dartmouth College consists of about 1,200 volumes, one hundred of which formerly belonged to the private library of Faraday. The library will soon be removed to its place in Culver Hall.

— The following subjects have been given out to the students at Dartmouth College for prize essays: To the Seniors—1. All Science, God's Thought; 2. The Ethics of Popularity. To the Juniors—1. Language the Expression of National Character; 2. Popular Delusions.

— We learn from *Nature* that the authorities of Harvard have placed in Professor Allman's hands for determination, the whole of the collection of hydroid zoöphytes obtained by the United States Court Survey during its late exploration of the Gulf Streams.

— MRS. Carolina Gilman, of Charleston, S. C., and her four daughers, have united in presenting to Harvard University a fine photograph of the late Rev. Dr. Samuel Gilman, with the poem, "Fair Harvard," written by him for the second centennial celebration of the founding of the college.

— The Junior exercises of Haverford College will be held in Alumni Hall, on the 31st of January. The exercises consist of eight English orations. On the preceding evening T. Rowland Estes, of the Senior class, will deliver the annual oration before the Loganian Society, and the oration will be preceded by addresses from Professors Hartshorne and Chase.

— The Syracuse University, opened with members in each class—twenty-eight in the freshman and ten in each of the others. Its property is valued at $600,000; its endowment between $250,000 and $300,000. The Hall of Languages, which is to cost $136,000, is in process of erection. Five professors have been selected. It is intended to endow nineteen or twenty professorships.

— Rev. John Newman, the proprietor of the Ripley Female College, at Poultney, Vt., offers the institution to the Methodist church upon the following very liberal conditions: 1. To restore the whole or any part of the property to the church at the appraisal of three disinterested persons. 2. To participate liberally in a subscription for that purpose. 3. To devote, without salary, five years to the work of obtaining an endowment.

MISCELLANEOUS.

— It is proposed to establish a portrait gallery in connection with Phillip's Academy, at Exeter, N. H.

— There have been 25,000 volumes added to the Portland, (Me.) public library within the past ten months.

— Influential members of the Psi Upsilon fraternity, recently met at Delmonico's, in New York city, to form an Alumni Association, and appointed a committee on Permanent Organization.

— Arrangements have been made by which it is expected that the collection of fossils belonging to Mr. Leckenby, will soon be transferred to the Cambridge (Eng.), Geological Museum.

— The inhabitants of Penzana, Cornwall, the birthplace of Sir Humphrey Davy, have determined to erect a statue to his memory. It is to be after the portrait of Davy, by Sir Thomas Lawrence, and will cost $30,000.

— The Wisconsin Historical Society, held its annual meeting on January 2d. Hon. Alexander Mitchell, of Milwaukee, was chosen president for the next three years, Lyman C. Draper, corresponding secretary, and D. S. Durrie, librarian. The library has received 5000 books and pamphlets during the past year, and the other departments have received a corresponding increase.

Science-instruction to Teachers:—Last year several courses of lectures upon scientific subjects were delivered before the teachers of Boston, at the Hall of the Boston Society of Natural History, the funds necessary to defray the expenses being given by Mr. John Cummings. The success of this attempt to popularize science has induced Mr. John A. Lowell, the trustee of the Lowell Institute fund, to furnish the means for its repetition. The lectures are to be given in the same hall, the price of admission being only nominal. We take from the *Naturalist* the following programme of the lectures for the present season:—

First Course, beginning October 23d, twelve lectures on Popular Geology, by W. T. Brigham, A.M. Subjects—'Water as a Geological Agent; Chemical and Physical Properties of Water; Dew and Rains; Springs; Rivers; Water Falls; Bays and Marshes; Lacustrine and Oceanic Deposits; The Ocean; Caverns; Snow and Ice; Glaciers; Deluges.'

Second Course, beginning December 4, six lectures by B. Joy Jeffries, M.D. Subject—'Comparative Anatomy of the Eye and Vision.'

Third Course, beginning December 26, ten lectures by Professor G. L. Goodale, of Bowdoin College. Subject—Physiological Botany, a study of some of the Relations of Plants to Heat, Light, Electricity and Chemistry.

Fourth Course, beginning January 29, six lectures by Thomas Dwight, jr., M.D. Subject 'Preservation of Life among the Vertebrates.'

Fifth Course, beginning February 19, six lectures by W. G. Farlow, M.D. Subject—Cryptogamic Botany with special reference to the Algæ.

Sixth Course, beginning March 11, by F. G. Sanborn. Subject—'Talks about Insects.'

The State Dram Shop.—The State liquor agent of Massachusetts, in his recent annual report, says, that during the year ending October 1st, 1871, only thirty-nine cities and towns in that commonwealth purchased liquors amounting in value, with commissions on sales, to $62,176. The expenses, including $2,800 for interest at seven per cent. on $40,000 capital, $4,000 salary to the agent, and $2,189 for rent of store and taxes, amounted to $21,124. There are 367 cities and towns in Massachusetts, and, as only thirty-nine purchased liquor at the State Agency, it is argued that the system should be abolished. The sales in 1871 were less by $100,000 than those during 1870. It is contended that if the number of towns purchasing liquor of the agency should continue to decrease in the same ratio as during the last three months, there will not be left by January next one town to patronize the "State dram shop."

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, FEBRUARY 3, 1872. NUMBER 5.

THE YALE EXPLORING EXPEDITION OF 1871.

It will be remembered that during the summer and autumn of 1870 Professor Marsh and party from Yale College made an expedition to the Cretaceous and Tertiary regions of the Rocky Mountains, and Pacific Coast for purposes of Scientific exploration and discovery. That expedition, although eminently successful, and prolonged as far into the winter as the weather would permit, still did not satisfy the enthusiastic professor of Palæontology in Yale. It also left a large portion of that country, so rich in rare animals both living and extinct and so interesting to the geologist and palæontologist, either but partially explored or wholly undeveloped. Accordingly, during the last summer and autumn, another expedition under the same able leadership, and with a similar purpose in view, made a second visit to these wild and dangerous but interesting regions. The general plan of this expedition embraced excursions or trips from three separate points, over as many separate fields, and the design was to carefully explore the localities about which little was known and which promised interesting results. The first excursion was to start from Fort Wallace, and explore the Cretaceous deposits of south western Kansas in the region of the Smoky River, where the party of the previous year had made interesting discoveries. The second was to start from Fort Bridger, in western Wyoming, and thoroughly examine the ancient lake basin of Tertiary age which Professor Marsh discovered on his visit the year before. The third was to set out from Salt Lake City and examine two other lake basins also of the Tertiary age, one in Idaho, and the other in Oregon, in the region of the John Day River, which were almost wholly unexplored; and then if time permitted to continue the investigations of the previous year on the Pacific Coast. From these fields so widely separated, it was expected to obtain a series of fossil remains, which would equal if not surpass the rich discoveries of the year before, and add a new and important chapter to the history of the extinct fauna of that wonderful region. The results more than justified the expectations.

ORGANIZATION OF THE PARTY.

The party of 1870, the first regular scientific expedition ever organized to visit these localities, consisted of Professor Marsh and twelve assistants. The present party was composed as follows:

Professor O. C.Marsh, Yale College,
Oscar Harger, New Haven, Conn.
Harry D. Ziegler, Philadelphia, Penn.
John J. DuBois, New Haven, Conn.
George M. Keasbey, Newark, N. J.
George G. Lobdell, Jr., Wilmington, Del.
John F Quigley, Wilmington, Del.
Alfred B. Mason, Chicago, Ill.
Frederick Mead, Jr. New York City,
Joseph F. Page, Philadelphia, Penn.
Theodore G. Peck, New York City.

These assistants were all recent graduates of the college, selected by Professor Marsh to aid him in making original discoveries, and not merely students taken out for instruction, as some have supposed. The entire aim of the expedition was to advance science, and everything else was subservient to that end.

This party, then, actuated with zeal for scientific research and each anxious to transmit his name to posterity by means of some important discovery, rendezvoused at Fort Wallace, Kansas, about the last of June. Here the garb and appurtenances of civilized life were laid aside, and that appropriate to life on the plains took its place. What are known among the denizens of that somewhat desolate country as "store clothes" and "boiled shirts" were ruthlessly consigned to trunks, and each man was arrayed in a broad hat perforated with holes; a heavy blue shirt, the deep pockets of which contained, compass, whistle, flask, pocket knife, etc.; heavy breeches with seat and knees covered with buckskin, or breeches made of buckskin throughout, buckskin blouse, and leggins of the same material over either shoes or boots according to choice. Coats were also taken along, but on account of the heat were unnecessary except at night. The party were all mounted either on mules or Indian ponies and the saddles supported the saddlebags, the haversack, canteen, and lariat, while a carbine was slung across the back of each rider, and his belt carried his geological hammer, knife, and revolver.

THE FIRST TRIP.

Thus equipped and arrayed the party set out from Fort Wallace on its first trip. They were accompanied by a train of five army wagons and an escort of government troops, for the country to be explored was a favorite hunting ground of hostile Indians, where in times past, the Sioux, Arrapahoes and Cheyennes, had ruled supreme, and they still regarded this as their own territory to be protected from all intruders. The march was in a south easterly direction, along a belt of sand, which was called Smoky river, but which required a stretch of courtesy to be so regarded, at least, at this season of the year. It now consisted of a series of detached pools which in places were connected by a running stream two or three inches in depth. The line of this river was followed in general on this trip, and of necessity, for the whole country was almost entirely destitute of water, With the exception of the river and a few feeble tributaries, which start from the springs at the bases of the hills but are soon lost in the hot sand, no running water was seen while in this region. It was always possible however to obtain water by digging down three or four feet in a river bed apparently dry, but when obtained, it was scarcely fit for use, on account of its alkaline properties. Those who were unaccustomed to such beverages were quite seriously affected by the water they were compelled to use.

The country traversed consisted a series of ridges varying in width from a few feet to two or three miles; separated by valleys of the same unequal extent. The ridges, called "divides," were often intersected by deep cañons, where the water has washed off the covering of earth and hollowed out a channel, often from fifty to a hundred feet deep, in the blue and yellow Cretaceous shale beneath. Some of these cañons extended but a short distance; while others stretched out for miles and often branched off into labyrinthian passages which confused and perplexed the unaccustomed explorer. Not unfrequently masses of rock would be passed which towered far up from the prairie, sole relics of the widely extended area around them, which had been washed away inch by inch through the untold ages of the past. At Monument, forty-two miles from Fort Wallace, there was a sort of court yard about 150 feet long, and from two to twenty feet broad, which was encompassed by walls of rock nearly sixty feet high. The wind and storms had fashioned these walls into battlements and towers; and in one place, the only approach to a lofty pinnacle was by a frail bridge which spanned a deep chasm. The only tree of the region was the cottonwood, which grows along the river beds. The "divides," were covered with the short, tough, brown buffalo grass, but in the valleys the verdure was more luxuriant.

The fossil-hunting was done in the cañons before described. As the explorer slowly rode along on his faithful mule or horse, with scientific instinct sharpened by curiosity to see the relics of ages so long gone by, and by ambition to discover something new, he would occasionally perceive upon a shelf of rock a skeleton fully exposed to view. To dismount, examine and secure the prize was the work of but a short time. But not always did these objects of search so readily reveal themselves. Sometimes it was only a projecting vertebra or rib, or bone of the foot or tail, that revealed the presence of the fossil within; and more often a piece of bone had become detached and having rolled a few feet down the cañon, was discovered quietly lying where the storms and gravitation had left it. When such a piece was found, the work of trailing began. The discoverer crept on hands and knees up the slopes, minutely scanning every inch of the rock. Usually his labors were rewarded by finding one or more other pieces which had become detached like the first. The location of each piece was carefully marked, and after thorough search had shown that no more were exposed to view, hammer, and chisel, and knife, and spade, and pick-axe were in turn, when necessary, brought to bear upon the highest point where a bone had been found. Sometimes the search was a fruitless one, but more often, a few strokes would reveal another bone and continued exertion, lay bare the whole skeleton. If the specimen was a common one, only the more characteristic bones were exhumed, but if it was rare, the soft rock was dug away by the cubic yard, until every part and particle even to tooth and claws, if they could be found, was disinterred. Then, when the earth had yielded up her dead, each separate bone was carefully wrapped in paper, or in cotton, or in both, and the whole put in a gunny bag, and sewed up, and in this condition taken to camp.

The sufferings of the party upon this excursion were very great. As has already been stated the water was bad and scarce, and the heat was intense. The nights were generally cool, but in the day time the thermometer ranged from 95° to 120° in the shade, and was above 110° for more than half the trip. Several severe thunder storms and one terrific hail storm demolished the tents, and added to the discomfort and inconvenience. Moreover the country explored abounded in rattlesnakes, whose activity and ferocity seemed to rise with the thermometer. Extreme caution was necessary to avoid being bitten. Not a day passed in which several were not killed either in camp or on the explorations, and on some days the number of the slain would reach a score. There was also constant apprehension from Indians, and, working, as the party did most of the time, in canons, which abounded in places favorable for ambush, and almost seemed to invite attack continual care and watchfulness were required. Add to this an entire want of fresh provisions, and the extreme hardships of this trip can be imagined. Several of the party broke down entirely, unable to endure the fatigue, exposure, and hard-fare, and even the guide, an Indian scout who had been on the plains for seventeen years, was stricken down by fever from which he did not recover until long after the trip was over.

Fortunately, when the scanty provisions were at their lowest ebb, and everything was at its worst, fresh signs of buffalo were discovered. None had been seen for over four weeks from the time of starting, and when they did appear all interest in the remains of animals which died ages ago suddenly departed. The whole attention and exertion of the party were absorbed in a desire to get the more agreeable and palatable remains of those whose death was far more recent. The first herd was seen late in the afternoon, and those who were mounted on horses—it is difficult to get a mule near enough to a buffalo to get a shot at one—succeeded in killing two. These were feasted on, and during the eating, great vows of what would be done on the

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morrow, were sworn. But when the morrow came the buffaloes had disappeared, and after a hard day's hunting only six tongues and humps were brought in. Before the trip was ended, however, nearly every man had killed his buffalo.

The Indians, though constantly feared, caused no real trouble on this trip, but the party, however, narrowly escaped collision with a large band of Sioux who were moving south on their annual buffalo hunt.

The scientific discoveries made in this region were important and interesting. Many new species of extinct birds, reptiles and fishes, were found. Huge skeletons of the Mosasaurus family, some of them ninety feet in length were discovered and secured. Of these fossil remains several tons were obtained, which on the return of the party to Fort Wallace were shipped to New Haven by rail.

THE SECOND TRIP.

From Fort Wallace the party proceeded to Denver, Colorado, and thence to Cheyenne, and over the mountains to Fort Bridger in Wyoming which was to be the base of the second excursion. From here on the 26th of August, they set out with a small escort and train to explore the great tertiary lake basin now drained by the Green River. The course pursued was eastward, although the Uintah Mountains farther to the south were visited and examined. The country consisted of desert plains, too sterile to produce grass, but thickly overgrown with sage brush. The plains were occasionally varied by buttes or eminencies which were entirely bare. The streams of water were more abundant than in Kansas, and their banks were fringed with cotton-wood trees and a narrow strip of rich deep grass which formed an agreable relief from the gray expanse either side. The views presented in the Uintah Mountains were magnificent. This range, the only one of the Rocky Mountains which runs east and west, presented when viewed from the north, a series of ridges of different height. The first and lower was the approaches or foot hills; behind these appeared the first high mountains which were covered with a dense pine forest; while far above and beyond towered a range of snow capped peaks. The water was generaly good, though some of the streams were slightly tinged with alkali, and there was no deficiency. This trip proved as agreable and pleasant as the previous one had been disagreable and full of hardship. Although the geological work was laborious, yet it was so frequently varied by fishing and hunting for which this region offered ample opportunity, that all thoughts of weariness were banished. During the two weeks that were spent on Henry's Fork over one thousand trout were taken, and yet the supply seemed hardly diminished. On a single day the chief of the party, an enthusiastic sportsman, landed one hundred and thirty nine, weighing together over one hundred pounds. Besides this abundance of fish the larder of the party usually contained a supply of sage-hens, rabbits, beaver, antelope and deer. Wolves coyotes and puma were shot at, but in vain; elk were wounded but not killed, and the grizzly bear was viewed from a safe distance. The weather was all that could be desired. There was little rain and the days were occasionally hot, but usually just comfortably warm, and the nights, cold enough to make both blankets and buffalo robe quite acceptable. On this trip the party regained in health and vigor all that had been lost by the hardships of southern Kansas. The pale faces with which some left civilization became brown, and the weak bodies strong. Those who with difficulty could endure a ride of a dozen miles when they set out on the first trip, would now ride fifty without complaint, eat nothing for fifteen hours, and spend twelve of these in the saddle, sleep at night with one thickness of blanket between them and the ground, and be ready for duty bright and early next morning.

Like the trip in Kansas this was a complete success in a scientific point of view. Although seven thousand feet above the sea, large quantities of bones of animals resembling the turtle, lizard, serpent, crocodile, rhinoceros, tapir, and elephant were found and secured. Besides these, fossils of smaller sizes, down to a tooth not larger than the head of a pin, were discovered and carefully packed away. A large part of the collection in this region was of the remains of small animals. The fossils were generally found in the buttes, and on account of their minuteness their discovery was attended with much difficulty. Instead of riding along on the sure-footed mule and looking for a gigantic tell-tale vertebra or rib, it was necessary to literally crawl over the country on hands and knees. To see the minute bones which were sought, the eye must be within three or four inches of the white sand on which they lie. Often a quarter of a mile of the most inviting country would be carefully gone over with no result, and then again some one would chance upon a butte which seemed almost made of fossils. When two or three found such a prize at nearly the same time, lines would be drawn around each claim with as much care as when valuable mineral land is located; for it must be remembered that each man had full credit for all his discoveries, and the thought of having ones name attached to some rare specimen in the Yale Museum led to sharp competition.

The region of this trip is occupied by the Ute Indians, who by reason of numerous defeats have become "good Indians," although the guide of the party, a typical frontiersman, affirmed that the only "good Indian" he had ever seen "had his head off." The party, however, were not molested on this trip by either "good" or "bad Indians."

THE THIRD TRIP.

After about six weeks spent in this region, the party returned to Fort Bridger and proceeded thence to Salt Lake city. Here a few days were spent in resting and preparing for the third and most difficult trip of the expedition. They were now to strike out far from the line of any rail-road, into a country little known and less traversed, and over routes where the passage was difficult, and perhaps dangerous. Consequently all the heavy baggage was sent to San Francisco by rail, only the most necessary camp equipage, clothing, and arms being retained. When everything was in readiness, the line of the Pacific railroad was left at Kelton, and the party proceeded in a northwesterly direction to the famous Shoshone Falls. Here a day or two was spent in examining this interesting locality, and then they proceeded to Boise city in Idaho. From here they passed by a difficult route over the Blue Mountains to the head waters of the John Day River, which was followed down to Cañon city. On the passage over the mountains an interesting tertiary deposit was discovered which abounded in fossil fishes, and extensive collections were made. On this same journey the party had a narrow escape from a band of "road agents," who not unfrequently stop travelers in this region, and just previously had succeeded in plundering a party who were carrying treasure from the mines down the mountains. At Cañon city, which is a small mining town in Oregon, and noted as having been the former home of the poet, Joaquin Miller, the party waited until an escort and outfit could be sent from Fort Harney, seventy-five miles to the south.

Upon the arrival of the outfit they started to explore two ancient lake basins in the tertiary formation, which are now drained by the John Day River. The upper and more recent of these was of the pliocene age, while the second which was older and lying further to the north was miocene. This region showed everywhere evidence of former volcanic action on a stupendous scale. The lake deposits of clay and sand in which the remains of extinct animals were found embedded had been covered by thousands of feet of basaltic lava, and it was only where the present streams have cut deep cañons through this lava covering, that the underlying beds and their fossil treasures could be reached. This rendered the work of exploration exceedingly difficult, but notwithstanding, these fields proved nearly as rich in fossils as any that had been visited. The upper lake bed contained the remains of the elephant, rhinoceros, lion, and other tropical animals, with several species of fossil horses. In the lower and older basin many new fossil mammals and some reptiles were discovered. Several species of rhinoceros, oreodon, turtles and other kindred animals, some of them new to science, were found and secured for future description.

The views of natural scenery in this region were magnificent in the extreme. While pursuing their explorations, the party had frequently in view the magnificent range of the Blue Mountains stretching far away to the north and south, on the eastward; while toward the west, the Cascade range with the snowy peaks of Mount Jefferson, Mount Hood, and Mount Adams, was plainly visible.

END OF THE EXPEDITION.

But the season had now become far advanced: the nights were bitter cold, and with every storm the snow line was creeping down the sides of the surrounding mountains. The party were therefore obliged to leave this interesting region and push northward to the Columbia river which they reached at the famous rapids known as the Dalles. The explorations were now ended, and after remaining here a few days the party went down the Columbia river to Portland, Oregon, where Professor Marsh and most of his associates took steamer for San Francisco, and the remainder proceeded thither by land. A severe storm rendered the voyage a disagreeable and dangerous one; and likewise caused the land party considerable difficulty in getting through the three feet of snow which it brought them.

At San Francisco a fortnight was spent in resting from the arduous labors of the summer. Some went to the Yosemite and saw it in its winter garb, and others spent the time in visiting the different objects of interest which were in reach. But it was now the middle of December and all were anxious to get home. Some of the party therefore returned directly east by rail, and were fortunate enough to escape the great snow blockade in the mountains. The others, with Professor Marsh, sailed for New York, by way of Panama. On the way to the Isthmus some interesting collections were made at the different Mexican and Central American ports and on the Isthmus Professor Marsh was so fortunate as to secure some very valuable antiquities from the ancient ruins of Central America.* On the passage from Aspinwall a day or two was spent at Kingston, Jamaica, and the long and laborious expedition ended with the safe arrival of the party in New York on the 14th of January.

The expedition throughout, although a very difficult one, was successful in every respect. Large collections were made, not alone of fossils, which include at least fifty species of animals new to science, but also many skeletons of rare species belonging to the present fauna of the regions visited, and in addition many valuable antiquities, which will aid in throwing light upon the history of man on this continent. Moreover, as the regions traversed were in many places unexplored, no little geographical information was obtained. The collections secured, in connection with those obtained the year before, will place this department of the Yale Museum far in advance of any in this country, and but little, if any, behind the finest collections of Europe. The stores of fossils obtained by the expedition are now being examined by Professor Marsh, and the more important scientific results will soon be published.

It is but justice to say that the expedition owes its inception and success to the eminent Professor in charge. Although the valuable collections secured will be placed in the Yale Museum, the party was essentially a private one, and bore its own expenses, amounting to nearly $15,000, exclusive of the assistance received from the government, without whose aid the expedition could not achieved its eminent success.

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THE ALUMNI MEMBERS OF "THE CORPORATION."

The COLLEGE COURANT of the 13th instant, publishes the scheme adopted, and recommended by a Committee, appointed last July by "The Corporation of Yale," for the regulation of the method of electing the new alumni members of that body, and it is gratifying to all interested in "the new dispensation" to know that the day is near at hand for the inauguration of the much desired innovation. It seems to me that in order to secure nominations, properly and carefully considered, and to obtain a list of candidates satisfactory to the alumni of *all* sections of the country, it would be eminently fair, and wise to request the several "Yale Alumni Associations" at New-York, Boston, Philadelphia, Washington, Cincinnati, Cleveland, Detroit, Chicago and St. Louis, to prepare a list of nominees for the six places to be filled. This should *not in any event* prevent the free nomination by individual alumni of other lists of candidates, but such a plan would secure the united expression of these associations throughout the country, and would serve to indicate to others not connected with such associations, what special alumnus belonging to any one of them is the choice of his own associates for a place in "The Corporation." It would also guide all, in an earnest endeavor to pay a just regard to the claims of the alumni residing in the various large centers of population, and influence throughout the country.

While it must be truly regarded as *an honor*, conferred by his fellows, for any alumnus to be elected to the important positions now opened for the first time; yet especial care should be taken to elect such alumni as will be willing, and able to enter upon their new positions with the firm determination and desire to be active, and *working* members of "The Corporation." No ornamental "figure-heads" who will only *occasionally* attend to the duties of their position should be chosen; but *live* and *wide-awake* ones who will be punctual, and faithful to every responsibility of their important trust. Some regard should be paid in the election of members, to those of the alumni who have had some experience in matters of education, and who have had some personal acquaintance since graduation with the internal affairs of collegiate government, or who are naturally fitted by taste and pursuits for such positions. While the majority of "The Fellows" will always be clergymen, it would seem to be well to select the majority of the alumni members from other professions, so that there may be a proper representation of various interests, and a happy blending of different classes of men in the controlling powers of Yale.

Many names have been suggested for the six places in "The Corporation," and many more could be mentioned who would undoubtedly fill the positions with honor and fidelity. The following list of twelve would seem to furnish six at least who would be acceptable to all Yale men throughout the country, and who represent many professions, and many influential localities:

Hon. Alphonso Taft, Cincinnati, O.
Rev. T. M. Clark, D.D., Providence, R. I.
Hon. W. M. Evarts, New York City.
Hon. W. L. Learned, Albany, N. Y.
Hon. W. B. Washburn, Boston, Mass.
Hon. H. B. Harrison, New Haven, Conn.
E. G. Mason, Esq., Chicago, Ill.
A. D. White, LL.D., Ithaca, N. Y.
W. W. Phelps, Esq, Bergen, N. J.
Frank E. Kernochan, Esq., New York City.
Hon. Daniel H. Chamberlain, Columbia, S. C.
Rev. W. G. Sumner, Morristown, N. J.

These are certainly representative men, whose position in the country, and among the alumni of various sections demands for them a careful and honest consideration. The suggestion of other names would doubtless be of assistance to all.

ALUMNUS.

January 25th, 1872.

MORE PENNSYLVANIA IDIOMS.

[The correspondence referred to below will be remembered as developing considerable interest at the time, and proving quite fruitful of strange and odd words and expressions. The following article is copied from the *American Educational Monthly*.]

About a year and a half ago I was permitted in this magazine (Monthly, August, 1870) to put on record "Some Pennsylvania Idioms;" and, the article having the luck to attract some attention, a number of interesting and hopeful comments were either made publicly or brought to my private notice. In the meantime, too, I have noted words which had previously escaped me, and to-day find enough material accumulated to warrant, perhaps, a second article on the same subject. A writer ("T. S.") in the *Nation*, of August 4, 1870, states that many of the words which I ascribed "to the Scotch-Irish settlers of a certain portion of the Susquehanna Valley [but not to them exclusively], are by no means peculiar to that region," and that he has been familiar with them from his youth up, "in Philadelphia and in Burlington, N. J., both settled in great part by English Quakers." It is, indeed, not the least interesting feature of the correspondence evoked by my article, that testimony is offered to a much wider usage of certain of the words and phrases recorded than I, at that time, had any conception of—always excepting the Old-Country usage, which I knew from a pretty thorough search of the dictionaries, though I did not take the pains to indicate this knowledge in any other way than by giving the true spelling of mispronounced words. For the convenience of those who may refer to my former article, I shall follow the order there observed, reserving, till the close of my retrospect, some fresh instances of the speech of our forefathers.

A correspondent ("T. C. D.") who was born and "raised" in Wayne and Union counties, Indiana, and the adjoining counties of Ohio,—a district settled by emigrants of the poorer class from Virginia and North Carolina,—writes that harvesters there were well acquainted with the forenoon and afternoon *piece* or luncheon. In a humorous article in *Lippincott's Monthly* for November, 1870, "Among the Crackers," the word *mammock* (pronounced *mommick* or *mummick*), to hack or mangle, appears in a new form:

"'Wa'al, now Cap'n' said he reflectively, 'you see thar's a pow'ful heap o' damage done! Thar's hills o' co'n an' rows o' taters—no, I mean hills o' taters an' rows o' co'n—completely *mommoxed* an' not wuth a durn. Thar's the trouble o' splittin' all that thar wood. Wa'al, it's hard tu say.'"

Prof. Schele de Vere, in his recent volume, "Americanisms,', has the following (p. 616):

"*Mammoxed* means, in Southern and Western slang, to be seriously injured. The origin of the term is not very clear—if it ever had a legitimate pedigree outside of Shakespeare's (?) *mummocked*. 'He was right smartly *mammoxed*, and at first we thought he was done for, but the damage wasn't very great, after all.' ('With the Comanches,' 1867.)"

Under *mammock*, noun and verb active, Worcester refers to the usage of Herbert and Mikon. "*Brash* [sick turn] I have met with amongst farmers in some parts of the interior of Pennsylvania, not in the city (T. S.)." "When we have a little *brash* we are slightly ill; when a man is *brash*, he is crusty; when a piece of wood is *brash* it is easily broken (T. C. D.)" "*Cotbetty*, not *cot*, was what our old cook called us when we bothered her in the kitchen—perhaps *quean* had too opprobrious a meaning, and *betty* was simply feminine without being necessarily bad (T. S.)." "We sometimes have *infares*," writes T. C. D. "These mean not so much the home-bringing of the bride as the attendant feast, mirth, dancing, etc., by the invited company. A 'regular *infare*' consisted of all these things. The custom of 'making an *infare*' is fast dying out. Those who were invited to the wedding were always considered as invited to the *infare*." "The word *infare*," writes Lieut. W. S., "I first heard used in the sense you give it in Anderson county, and subsequently in Edgefield and Barnwell counties, South Carolina. The word was used by the educated portion of the people, and appeared to have as firm a hold in their speech as the word 'tote.' Can the use of the word in South Carolina be traced back to the same class of people who used it first in Pennsylvania?" Schele de Vere uses the word only as synonymous with "installation" (of a minister). "*Flit*," writes the Rev. "J. M.," himself of Scotch-Irish descent and born on the Pennsylvania border, "is a pure Saxon word." Applied to removing from one domicile to another, it varies but little from its general meaning, which is, to pass without observation. A 'moonlight *flit*' is a common phrase in Central Pennyslvania, and explains itself; but *flit*, to express the ordinary act of 'moving,' is used in a secondary and careless sense of the word."

"You conjecture," writes the Rev. "J. B. H.," who came lately from the West to the East, "that *hippen* may be 'hipband,' but it is simply 'hipping'—*i. e.*, something for the hips; and the final g is elided precisely as in whippin', runnin', fishin', etc. I have heard '*hipping*' a thousand times. Wherever district schools of the modern kind are introduced into the older regions of Ohio, Indiana, Illinois, etc., the first school girls learn to put on the *g* in all this class of words; and when they come to marry and have babies, they all say '*hipping*.' After that, when the old simplicity is replaced by ostentatious refinement of speech, the ladies all say 'diaper' for the same thing." It would seem as if the word might have had a Southern origin. "*Hippen*," says T. C. D., "more rarely 'clout,' designated a certain portion of an infant's wardrobe; this only among the pioneers. The modern term is now in use." "We yet measure the depth of puddles of water or mud by the phrases '*over shoe mouth*' or over boot-top' (T. C. D.)." "*Meeching*, more rarely *miching*, still survives here in the sense in which it was used by Shakespeare (skulking), while in England it has become obsolete (Schele de Vere)." The Pennsylvania signification, it will be remembered, was playing truant. "*Anan*, so constantly met with in J. F. Cooper's novels, is now-a-days heard only in New Jersey, and occasionally by old-fashioned people (Schele de Vere)." "*Nan* was not so infrequent when I was a boy, but it has lately become obsolete, or very nearly so (T. S.)." "*Anan* (not *nan*) is a corruption of *anon*, a genuine Saxon word. In its modern and local use, it always expresses a request that a remark made, or question asked, or command given, be repeated: as an Englishman would say, 'I beg your pardon, sir?' (J. M.)." "*Belligods* (pronounced *belliguts*) was a term much in use among the old Puritans to denote articles of luxurious living, particularly those for the gratification of the stomach. It has an evident allusion to Phil. iii. 19; and its use in that sense may be seen in their sermons and religious writings *passim*. 'Taffy,' at one time the most fascinating to children of all eatables, naturally got the benefit of this epithet *belligods*; which those extremely good people, had they lived in our day, would have probably flung at our ice-creams, effervescing waters, and sherry-cobblers (J.M.)." "*Bellygods*," says T. S.. referring to the foregoing derivation, "I swallow without hesitation. I heard, only last evening, asort of confirmation of theetymology, in the pronounciation of the last syllable by an old-fashioned Delaware man, who was quite shocked by the conversion of *d* to *t*. It is of no importance to us now, unfortunately, but I may remark that it is not precisely 'toffy,' but a kindred sweet."

"*Saddy* is pure Philadelphian, though I never saw it spelt before. I remember once asking my mother what it meant, and her reply, 'save ye,' but I have since learned that the more plausible an etymology is, the more likely it is to be false. Possibly the '*salve præceptor*' of the schoolboy had something to do with it—we stuck to our Cordery pretty late in this slow place.

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If '*salve*,' however, was generally a word of saluation or of parting, yet it sometimes did have the effect of a 'God bless you,' as to one sneezing, for example (T. S.)." "*Saddy*, *saady*, or *saudy*, is possibly a compound of the French *sauve-toi*. But how it has slid into the secondary meaning of 'thank you,' it is not easy to explain. I have not known it used except by New Yorkers [!] and I suspect its origin is to be looked for in the Dutch or Danish language (J. M.)." "*Saddy* I have tried hard for several years to trace. It was used in Virginia a hundred years ago. I have long thought that the *dy* or *ddy* is 'to you' 't' you, modified in rapid pronounciation. I have looked for it in the old English writers, where, as you know, nearly everything is to be found, but so far my search is unsuccessful (J. B. H.)."

The word *fash* I find in the following extract from a recent English work: "The Brownies," by Juliana Horatio Ewing (London: Bell & Daldy, 1870). The story is of the North of England.

"He had always been used to be waited upon, and he couldn't *fash* to look after the farm when it was his own." Writes J. M.: "*Through other*, to denote confusion, or, as we say, with less elegance, higgledy-piggledy. Whether this phrase is a corruption of the Scotch *a-throwther*, or the latter a corruption of *it*, I leave others to decide. But there is no mistake about the expressions being synonymous. There are several instance of it in Burns, and particularly in his Ode to Scotch Drink:

> "'They cana bide the stink of powther:
> But, skelp! a shot! they're aff *a-throwther*,
> To save their skins.'"

"You are quite right in making A. P. stand for the original maker of the cakes. Ann Price, or Page, or Palmer (the best authority, perhaps, for the last), who first sold *apees* at her cook-shop in Philadelphia, stamped them with her initials—hence the name. So my grandmother told me, but I can't recollect the last name. A correspondent in the *Historical Magazine*, Vol. v., p. 93, says that Mrs. *Palmer's* shop was in Chestnut street, between Second and Third streets, and he is quite sure that she was A. P. (T. S.)."

"*Bunty* signifies squat in stature or short, applied both to men and animals; and sometimes to inanimate objects. Men are sometimes nicknamed *bunty* (T. C. D.)." "In some parts of New England they say *fautty*, to express contempt, as the Pennsylvanians say *footy* (J. M.)." *Harper's Bazar*, of August 6, 1870, re-produces a cut from a comic English journal with this as a part of the legend: "Why, we've got another little chap at 'ome as this one 'ere ain't even so much as a *patch upon it*." Compare this with *patchin* in my former article.

"To *sock* is certainly 'to hit with a ball,' and is the only single word in use in these parts, as far as I know, to express this action (T. S.)." "The school boys, to this day, play a game of ball which they call *sock*. They often *sock* each other with various school-boy missiles (T. C. D.)."

I am indebted to J. M. for the following additional observations. "*Anent*, in relation to; and its compound *foreanent*, corrupted into *forneust*, to signify opposite, overgainst, are words peculiar to old-fashioned Scotch-Irish people in Pennsylvania. Also *you-ones*, ponounced *you-uns*; which was an attempt to pluralize the second person of the pronoun when *you* began to be used indifferently for *thou*." This compound reminds us of the Southern form of "yonder" and "yon," whose use is well exemplified in the following stanza, from an amusing poem in the Macon (Ga.) *Telegraph*:

> "Five years glid by, and Brown, one day,
> (Who got so fat that he wouldn't weigh,)
> Was a-sitting down, sorter lazily,
> To the bulliest dinner you ever see,
> When one of the children jumped on his knee
> And says, 'Yan's Jones, which you bought his land.'"

Some of the words peculiar to T. C. D.'s locality are worth notice here. "An indefinite, large number of anything is 'lots' or 'heaps' or '*slathers*;' in the language of children, '*lots and gobs*' [I have heard this last from a Pennsylvannia-Dutch woman]. We never have pails, but use 'buckets;' our wagons never have whiffle-trees, we use '*double-trees*' and '*single-trees*' instead. Our buggies have no thills, but 'shafts.' Instead of going in a diagonal direction, we sometimes go '*cat-er-cornered*' [compare the *cat-corners* of the checker-board], sometimes '*cat-er-nampus*,' sometimes '*caslonch-ways*.'"

The additions which I have now to make to my former list are few, but (like some of their prececessors) they will, perhaps, serve to perplex etymologists.

Sprig, for a brad-nail, used by my Pennsylvanian associates, is new to me as a New Englander, but doubtless familiar enough to others. *Throng*, as an adjective—*e. g.* "The room was very *throng*"—is a relic of local English usage. But who can explain for me the etymology and right of spelling of these words, in use in Pennsylvania less than half a century ago—perhaps still in use?—*Faze*, to gaze, to hurt. "Nothing *fazes* me." *Boo*, euphemistic once for a louse. *Fogo*, disorder; also a mal-odor—*e. g.* "My! what a *fogo* in this room!" *Hob*, in the expression: "It plays *hob* with your time"—*i. e.*, plays the deuce with it; eats it up. Perhaps the last is not obscurely derived in meaning from the "*hob*" (sprite, fairy,) of hobgoblin. Finally, the word *hike* (verb neuter) in the phrase: "What makes your dress *hike up* so?" in use in Philadelphia, and, I believe, also in use in England in the conversation of the well-educated—is it a possible corruption of "hitch?"

P. CHAMITE.

THE NEW YORK HISTORICAL SOCIETY.

A writer in the *Targum* gives the following brief description of this society. After telling that it was founded in 1804, and is situated at the corner of Second Avenue and Eleventh street. He goes on to say:

In the Library; which is entered first, are found, besides the ancient tomes, some interesting relics, such as the cane of B. Franklin, the camp bedstead of Gen. Washington, lace worn in the seventeenth century, the tomahawk, with a carved handle, of Black Hawk, the chair of Napoleon Bonaparte, a large section of the old and well known Sturdevant pear tree, and so on.

The cabinet of coins and medals is not equaled in the United States for completeness and rarity. Their importance is understood. These often constitute the principal or only material for the historian. Through this imperishable channel it is that recollections of momentous events have found their way to after generations. When states and empires slumbered in the dust, after mausoleum and triumphal column have lost their form, grace and beauty, these types of glory have brought to light facts of interest and often of vital importance in the chain of history.

Of MSS. there is also a large and varied collection. Some of those we noticed are: A large collection of papers which belonged to Lord Sterling, making ten volumes bound, comprising original copies of letters written by General Washington, B. Tupper, J. Trumbull, P. Scuyler, B. Franklin, from 1756 to 1783; a diary of Samuel Cooper of Boston for 1753; an original copy of a lexicon of all the Chaldee in the Bible, 1775, Stephen Sewall, Cambridge—only one other copy is in existence, and is found in Harvard College Library; a list of country subscribers to the *Gazette* of Peter Porcupine; the Journal of the British House of Commons from 1650 to 1676—this rare and valuable collection of MS. Parliamentary documents formerly belonged to Dr. Livingston, of N. J.; a document relating to the controversy in 1807, between the corporation of N. Y. city and the State of N. J. as to the right of Hudson river; a declaration, signed by the aldermen, treasurer, high constable and other officers of N. Y. city, renouncing the doctrine of transubstantiation. We also noticed a collection of new-England Almanacs, beginning with the year 1692.

Of newspapers, the society possesses probably the largest and most complete files in the country. Out of the large number we only recall one or two; the N. Y. *Daily Advertiser* from 1809; the N. Y. *Evening Post* from 1801, and the first 209 numbers of the Boston *News Letter*, from its establishment in 1704. It is hardly probable that another copy of the first newspaper printed in America so complete as this, is anywhere else in existence. The storing up of so vast a pile of periodicals and occasional pamphlets, may seem like accumulating rubbish and waste paper, but as one of its members states it, "A file of American newspapers is of more value to this design than all Byzantine historians."

Those interested may also find there a large number of maps of all kind, some of them as old as 1560. One which interested us most was of the State of New-York, in 1802, by Hon. Simeon DeWitt, an alumnus of Rutgers College.

On the next floor, there is a peculiar musty odor which at once informs us that we are surrounded by the dust of ages; the voice naturally becomes hushed, for fear the vibrations of the air would bring down something with a crash that had not been disturbed for years. Dust everywhere, still we must examine this curious store, for this is the department of a thousand and one Egyptian curiosities. A hideous place it would be to sleep in, and to take a *night's rest* would not be possible. In one corner mummies of men and women, in glass cases, set upright; further on, the head of one of the Kings, and close beside, the head, hands and feet of an Egyptian woman; the tomb of one of the Kings; and next, greatest of all, three mummied sacred bulls, lying in grotesque state in a glass compartment, ponderous animals but looking not a bit worshipful; a little further on are six crocodiles strung up by the wall. There are many less frightful curiosities disposed around, stone slabs vases and ornaments wonderful wicker baskets, long scrolls of papyrus MSS., &c., &c., all of which "must be seen to be appreciated."

But the crowning part of the whole collection, both because it has taxed brain and heart and skill to produce it, and because it is on the topmost floor, is the Gallery of Art. There may be found some of the finest and grandest paintings in the land. Most of them are rare, some illustrating Jewish history, and some Grecian and Roman, besides many others. Among those by American artists, those which appeared to us as the grandest were a series of seven large paintings by Cole, showing the "Course of the Empire." Its beginning out of chaos; progress, step by step to greatness, gradual decline, and finally its sudden overthrow. Among the portraits placed around are those of John Calvin, John Quincy Adams, Benj. Church, B. Franklin, Alex. Hamilton, Sir Isaac Newton, Thos. Paine and Dr. Kane.

But the society are not satisfied with what they *have* accomplished. They are ever on the lookout for objects of interest, not only to New York City and New York State, but to all the Union of States and cities, and to the world at large. They have located their collection in New York city because it is the most cosmopolitan of modern cities. Every nation is represented. Read the down-town signs, turn over the journals, look at places of public amusement, enter the churches, you will find everywhere something, a man, a custom, a language, a vocation, borrowed from every quarter. Innovations have taken place since the days of "auld lang syne." The Dutch gable-ends have disappeared, Yankees have driven out burgomasters; Cuban segars, Holland pipes, and railroads, old-fashioned gigs. To this city they have entrusted their priceless store, and here they are collected, valuable roadmarks of time, blazing the way for a future true history. While the sordid collect and the riotous squander hoards of useless or pernicious pelf, it is theirs to expend the fruit of honest industry on objects which enrich their city and spread the influence of learning genius and taste over the hearts and minds of its numerous inhabitants.

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SCIENTIFIC.

The Wonders of Photography.—The exigencies of the Parisian siege have brought prominently before us the use of micro-photography. A writer in the British *Journal of Photography* predicts that we will soon have our daily paper handed to us the size of a postage stamp, and carry our favorite poets in our vest buttons. We will see "a new edition of Macaulay complete in three shirt studs," or "the city edition of Dickens" complete in two sleeve-buttons. Every one will then carry a microscope as we do now a penknife.

New Test for Meteoric Iron.—Dr. S. Meunier in *Comptes Rendus*, reports that when a fragment of meteoric iron is attached to the positive pole of a Bunsen element, the other pole being a piece of silver, the electrodes placed in a solution of bi-sulphate of potassium, and contact made, there will appear on the iron an iridescent coloration similar to that brought out by heat; but, if contact be not made, there will appear on the meteoric iron those crystalline forms brought out by acids, and commonly known as Widmannstättian figures.

Engraving with the Sand Blast.—The most remarkable invention brought out within the past year is that by Mr. B. C. Tilghman of Philadelphia, for engraving on glass and stone. By means of a jet of quartz sand, blown through a pipe by steam at a pressure of 300 pounds to the square inch, he can cut a hole in a solid block of corundum—only inferior to the diamond in hardness—in a few minutes. The new process is now exciting great interest in Europe; an English journal thus speaks of it: "This American engineer just turns upon corundum a pipe which discharges sifted sand, mixed with a furious squirting of steam, and the fine shower of particles thus flung cuts a hole equal to the diameter of the jet. The same effect is produced in anything else submitted to the process. Here has the world been grinding, hammering, chiseling, and whirling drills for centuries, to make holes and channels in obdurate substances, when suddenly the friend of our youth, the squirt—in a new form, no doubt—comes to the rescue; and for the future we shall see the work done by this irresistible jet of dust beating in ten million millions of fairy raps upon the object; thus effecting what is wished in a tenth of the previous time, and with exquisite precision. But the clever discoverer of this new agent has found that so great a force of steam is not necessary for finer work, such as grinding or engraving glasss. One may employ a blast of air for this purpose by means of a rotary fan. The tube is fed with sifted sand, which the air-blast takes up and whirls against the glass. It will thus completely depolish a surface, moving past at the rate of five inches in a minute, and the spent sand and glass-dust can be perpetually returned and reëmployed. Moreover, by covering parts of the glass with a semi-elastic material, such as paper, lace, caoutchouc, or oil-paint, designs of any sort may be engraved. The particles which eat off the hard glass or stone beat in vain upon the interposed medium; and so curious is this resistance that even a green fern leaf may be used, and the sand shower will consume all but the parts thus covered, leaving a delicate pattern of the frond. Again, in that kind of glass-work where a sheet of one color is superimposed upon another, the upper sheet may be partially protected by a paper stencil, while the parts left exposed are eaten or bitten away into the desired figures. The film of bichromatized gelatine, used for photographic negatives, may also be thus utilized for producing an engraving on glass or steel; and by a very simple arrangement the jet can be rendered movable, and be handled with an absolutely artistic freedom. So effective, indeed, is this principle of minute myriad tappings upon any exposed surface, that small leaden shot, driven in the same manner, wear a hole in the hardest quartz rock. The exhibiter of the new agent showed a sheet of glass which had been perforated by a sand jet under a covering of wire gauze. The glass was turned as it were into delicate squares of blond lace, with meshes of one-twelfth of an inch, and threads of one-sixteenth, a result unattainable by any other process." It may be added that the latest adaptation of this new invention is to a peculiar process of replacing the art of wood engraving. It consists in bringing upon a suitable matrix a photographic copy of the drawing or engraving to be reproduced. This is then passed beneath the sand-blast, and the cutting is thus obtained. The reverse engraving is then subjected to the electrotype process, and any desired number of copies are produced.

Rumford's "Medals" And Works.—An Associated Press telegram, dated Boston, January 9th, announces that the "American Academy of Arts and Sciences" met that evening, for the purpose of presenting the "Rumford" medal to Joseph Harrison, Jr., of Philadelphia, for his "invention of safety boilers." The award of the medal was made at the last annual meeting of the academy (1871), and the correspondence on the subject, together with a brief account of the origin of the fund, and of the previous awards of the medal, will be found in our news columns. Among the former recipients of the "Rumford medals" in America and in Europe, will be found the names of Dr. Robert Hare, of Philadelphia; John B. Ericsson and George H. Corliss, of our own country; and Sir Humphrey Davy, Michael Faraday, Sir David Brewster, F. J. D. Arago, Henry Fox Talbot, Dr. Arnott and John Tyndall, abroad. In the United States the medals are provided for by a fund, placed by Count Rumford in charge of the American Academy of Arts and Sciences, Boston, and in Europe by a similar fund placed in charge ot the Royal Society, London.

This recent award in the United States recalls to mind the highly useful works of a remarkable man whose memory is chiefly identified with European countries—England, Bavaria and France—although he was an American by birth and grew to manhood on this side of the Atlantic. The man who subsequently became so famous as "Count Rumford," was a native of the little village of Woburn, near Boston, born in March, 1753. His name was Benjamin Thompson. Left an orphan in his infancy by the death of his father, he got the village school education of those early days; was apprenticed (1766) to an importer of British goods in Salem, Mass., reading, studying, working at mechanical contrivances, dabbling in philosophy and going to school and to lectures at intervals; married in his twentieth year; was appointed major in the Colonial forces; fell under suspicion as to his loyalty at the outbreak of the Revolution; was threatened with mob violence, fled from his home (Concord), got within the British lines at Boston, and went to England in 1776. After this his career was very eventful. He was appointed Under Secretary of State for the Colonies, possessing great influence over Lord George Germaine; came back to America (1781) as colonel of a regiment of cavalry, in the British service; returned to England (1783); went soon after (still being a British officer) to France, where he attracted the notice of the Elector of Bavaria by his fine appearance on horse-back; was invited to Munich, having first been knighted in England; and in Munich he arose in a few years to be the confidential adviser of the sovereign, chief officer of the State, Commander-in-Chief of the army and Minister to England; having, in the meantime, established a Military Academy, military workshops to promote industry among the soldiers, improved the roads, established a noble park in Munich, abolished a deplorable state of mendicancy in the city by providing Industrial Homes for the Poor, and made many valuable improvements and discoveries in the application of science to the mechanic arts and domestic affairs. For all this he was made "Count Rumford." He returned to England in 1795, founded the "Royal Institution" which has given to the world in the valuable discoveries of Humphrey Davy, Michael Faraday, and John Tyndall; endowed the Royal Society and the American Academy with the funds for the "Rumford medals;" went to Paris in 1803, continuing his philosophical investigations there until 1814, when he died, leaving the residue of his estate to Harvard University, Cambridge, Mass.

The career of which the foregoing is the barest skeleton of a sketch was as wondrous as a romance. But the most remarkable characteristic of the man, after the magnetic attraction of his manner, was the tenacity with which he held, and the energy with which he urged, his idea of bringing science to bear upon the practical affairs and employments of common life. Whenever he was engaged in his laboratory, experimenting upon the properties of heat and the developments of chemistry, he was always on the lookout for some way of utilizing his discoveries in the improvement of chimneys, fire-places, grates, stoves, ovens, lamps, furnaces for steam engines, cooking utensils, etc. He taught England how to avoid waste of fuel, how to construct chimneys that would not smoke, how to build fire-places, and how to erect kitchens for great hospitals; and he taught Bavaria how to make even the beggars self-supporting, and how to prevent the soldiers from being drones and demoralizers of society, by giving them incentives to be industrious in camp. Nothing was beneath his craving to improve everything, and he employed himself as readily in improving a kitchen "roaster" or a saw-horse for a wood sawyer, as in his inquiries into the abstract principles of heat, light and chemistry. His uppermost thought was to have science directed "to the improvement of arts and manufactures;" "the encouragement of industry;" the promotion of "the comforts and conveniences of life," especially among "the poorer and more numerous classes of society. This is the main thought in nearly all of his instructive essays; it was the basis of his idea in founding the "Royal Institution," into which *he* introduced Humphrey Davy, then an obscure young man; and it was his principal thought in establishing perpetual funds in America and Europe for the medals for *useful* inventions and discoveries which have given occasion for these remarks.

The "Royal Institution," which occupies an unpretending building in Albemarle street, London, is well worthy of the study of those of our countrymen who devote, or think of devoting, large sums of money for the endowment of Colleges, Libraries, etc., most of which money is usually spent in "stately piles of architecture," and too often stop there. The "Royal Institution" did not cost a fifth part of what has been wasted in buildings in many instances out of private endowments in this country; yet what a mark *that* "Institution" has made in the world in the "*increase* of useful knowledge." The great secret has been that, instead of spending its funds in buildings, it has been expended in developing the abilities, and in enabling such men as Davy and Faraday and Tyndall to devote their lives to *original research.*—*Philadelphia Ledger.*

The Meteorology of January, 1872.—The mean temperature of the month of January at New Haven was 27.5 degrees, which is one degree above the average temperature of the month. The highest temperature of the mouth was 49.2 degrees on the 12th; the lowest was 4.4 degrees on the 31st. The ranges of the thermometer for the month was 44.8 degrees, which is six degrees less than the average range. The mean temperature of the past few months was not quite one degree below the average temperature of these few months for a long period of years.

The amount of rain and melted snow for the past month was 2.78 inches, which is three quarters of an inch less than the average fall. The amount of snow for January was unusually small, viz., three inches.

Yale College, Feb. 1, 1872. E. L.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, FEB. 3, 1872.

IF "A Graduate of over 20 Years" will favor us with his name, his communication will receive the attention it merits.

BY the recent destructive fire in Chicago, the Rush Medical College was entirely destroyed. It "exists to-day only in its legal organizations, the lot on which the college building stood, the energy of its trustees and faculty, and the love and fidelity of its alumni" In view of this state of things the alumni resident in the city of Chicago have appointed a committee to draft and present an appeal to the alumni and friends of the college, for aid to rebuild and furnish the college buildings. This appeal has been issued and likewise one from the trustees. The appeal from the committe of the alumni sets forth what the college has done, and the consequent justness of its claim for aid; a determination that the college shall be rebuilt; and asks for contributions. The appeal from the trustees endorses the appeal from the alumni and offers for every donation of five hundred dollars, to establish a free perpetual scholarship "which shall bear the name of the donor and shall be conspicuously emblazoned on the wall of the lecture room. A certificate of this scholarship, engrossed on parchment will be issued to the donor, which certificate shall secure to the bearer, free tuition and when found qualified free graduation." This appeal is signed by Wm. B. Ogden, chairman of the board of trustees, and Grant Goodrich, secretary. All donations in answer to the appeal of the alumni, may be sent to Chas. T. Parkes, M.D., 462 Elton Ave., Chicago.

WE were in error last week in stating that the bulk of the property of the late Isaac Rich of Boston went to the Boston Theological Seminary to develop that Seminary into a University. It goes to the Boston University with the expectation that the Theological Seminary will be merged into that university. The will of Mr. Rich was admitted for probate on Monday last. It is dated Aug. 7, 1869, and appoints William Claflin of Boston, W. H. West of Dorchester and John Goldsbury of Boston executors and trustees, exempting them from giving bonds. After a number of bequests to relatives, among which is one of $10,000 to President Cummings of Wesleyan University, and which amount with the annuities to $26,000, the rest of the property is to go at the end of ten years, with all the accumulations thereon, to the Boston University and be under its management and direction to promote and perpetuate piety and learning, and inasmuch as he hopes the Boston Theological Seminary will be merged in the Boston University, he directs his trustees within three years after his decease, in case the Boston University shall have become posessed of real and personal estate to the value of $200,000, to pay to the trustees of said university the sum of $10,000, in five years $20,000, in seven years $30,000. These partial payments are not to be made unless the university becomes possessed of $200,000. In case the Boston University does not within ten years acquire property to the amount of $200,000, or in case it abandons its charter before that time, one undivided half of the above mentioned property shall revert to the Wesleyan University at Middletown, Conn., and from the other undivided half $100,000 to the town of Wellfiet, the income of which is to be used for purposes of education; $100,000 to the Wesleyan Academy at Wilbraham; $25,000 to the Preachers' Aid Society of the New England Conference; $25,000 to the New England Educational Society; $25,000 to the Maine Wesleyan Academy at Readfield; $25,000 to the East Maine Academy at Bucksport; and the residue and remainder of all the property to the Wesleyan University at Middletown. The property under the will is sworn at $1,700,000.

ROBERT COLLEGE.

Robert College near Constantinople is doing a noble and successful work. The difficulties which attended its foundation have been overcome, the obstacles which opposed its progress, have been surmounted and it is now entering upon a field almost unlimited in extent, and with a prospect before it that can hardly be conceived.

As has already been announced, Dr. Hamlin, President of this college, is now in this country trying to raise the sum of $300,000, to be applied to an expansion of the institution which seems almost forced upon it. In pursuance of this end, he recently visited New Haven, and made a short address, before the students of the various departments. In the course of this address he stated some very interesting facts in relation to the early history of the college and its present condition.

The aim which was in view when Dr. Hamlin went to Turkey thirty-three years ago, was to introduce American College education to the Oriental mind, an object which many regarded as exceedingly difficult and others, an impossibility. The reasons for so regarding this project, were fourfold. First there was the almost entire unchangeableness of the east, seen not alone in the threshing floors which are the same as in Bible times, but in everything connected with the people and country. The east is crystalized, and cannot adapt itself to anything new. Secondly, the Turkish Empire is composed of so many languages that no college can expect to succeed. For it must be remembered that in the colleges and schools which then existed in Turkey the races did not mix. There were Grecian, Bulgarian and Armenian schools, but these were exclusively occupied, each by its own nationality. And the Jesuit schools although to a limited extent they were attended by different races, yet they had done almost nothing toward unifying them. Thirdly, these differences of race and characteristics were so great that students would never meet on a common basis, and, fourthly, the ideas of the people in reference to education were so narrow that it would be impossible to introduce the American idea of general culture. There were plenty of schools, but the educational idea of Turkey was, that only that must be learned which one is to use in his occupation. No place was allowed for general culture.

Notwithstanding these obstacles, however, which were felt and known to be real it was determined to make the attempt. And it was made with the single encouragement that the different races and religions *do* meet together in business and in the ordinary interchanges of life, and education possibly would stand the same chance as traffic. After various permissions, revocations and other difficulties from the Turkish government, a site was obtained, a building erected and the college opened in 1864, with four students, two English, one Swiss and one American. During the second year a few natives came in, but most of the students were from the mixed foreign population of Constantinople. The third year, more natives came, and from that time until the present, there has been a continual increase until now the applicants cannot be accommodated, and the number of students for the future is practically unlimited.

They are drawn from nearly every race in those regions and there are now in the college 47 Armenians, 45 Bulgarians, 38 Greeks, 12 English, 4 Germans, 4 Italians, 3 Americans, 3 Jews and one each from a number of other nationalities. With regard to mental qualifications, these students are said to be in no way inferior, naturally, to the Anglo-Saxon race. They are not difficult to govern, have a natural reverence for authority, and hence it is very rare that one is expelled. In the public declamations it is not rare to have fourteen different languages represented. In the preparatory department, English is learned by all, and at the same time each is taught his own language and literature. All, therefore, have one language in common.

From this statement it seems fair to conclude that the enterprise in which Dr. Hamlin is engaged is one which is every way worthy, and which should excite the attention of those having money to bestow. It is impossible to calculate the influence which this institution will have upon the future of Turkey. It requires but a small stretch of imagination to conceive that her future rulers are now being educated within its walls.

PROFESSOR CHANDLER'S LECTURE.

The fourth of the course of Scientific Lectures now being given in this city, was delivered last Wednesday night by Professor Charles F. Chandler, Ph. D., of Columbia College School of Mines, upon "Gas Illumination." The lecturer began by referring to the fact that among savage races there is little need of artificial light, but as people advance in civilization, they find it important to extend the period of daily activity beyond the hour of sunset, and indeed, far into the night. And it may even be true that the advance of civilization actually depends upon the additions thus made to the working day. There have been, therefore, numerous methods employed to obtain the artificial light desired. Among these are, the wood fire, the pine splinters of the American Indians, sandal wood, oily nuts, torches, sticks smeared with resinous gums and rush lights. Following these rude attempts were lamps, in which animal and vegetable oils, and even petroleum by the ancient Egyptians, were burned; and ultimately candles. Candles, however, were not of so ancient a date as the mention of candlesticks in the Scriptures would lead us to think, for the candlesticks of those ancient times were made to support lamps, and the candles mentioned by Pliny were undoubtedly strings of flax saturated with pitch or wax. The manufacture of candles was coeval with the persecutions of the early Christians, when they took refuge in the catacombs, and in the 14th century they were confined to the churches, and in the 18th, still a luxury. The use of different materials for their manufacture and the invention of several kinds of lamps was then referred to. From this the lecturer went on to speak of the practice of extinguishing all lights and fires at the ringing of the curfew bell and affirmed that this was not so great a hardship as it would seem to us, for our ancestors could neither read or write. The need of artificial light for the prevention of crime, and the efforts to obtain it, by lights in the windows of the houses in Edessa and Antioch and in England where the matter was the subject of Parliamentary action; by the link or torch boys of Paris, and by the system of hanging lanterns over the middle of the street which prevailed in many cities on the Continent, were fully and minutely described. But these lights only served to render the darkness visible and foot-pads and burglars held sway after sundown. Darkness, said the lecturer, is always the cover of crime, and no modern improvement has been so effective as gas lighting in making the by-ways and high-ways of cities safe for pedestrians during the hours of darkness.

Natural gas springs and wells, their occurrence and the practical use to which the gas has been put in lighting dwellings and cities, were fully described.

Coal was then treated both historically and practically, and under the latter head some most interesting statistics were given. The consumption of one pound of coal is equal to the labor of one man for a day, and 300

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pound equals his labor for a year. The great pyramid which is seven hundred feet square and five hundred high, and weigh 12,760,000,000 tons required, according to Herodotus, the labor of 100,000 men, twenty years to build it; but Dr. Lardner affirmed that 480 tons of coal with an engine and hoisting machine would have raised every stone to its position. Great Britain uses 20,000,000 tons of coal per annum for power, and thereby adds an equivalent of 133,000,000 of working men to her population without having to feed or clothe them or care for their families. The use of coal in our country was also referred to with the thought that by a proper policy our labor force might in like manner be immensely increased.

The lecturer then proceeded to the subject of coal gas. In 1792 in England, Wm. Murdock lighted his own dwelling with gas; in 1803, a machine shop, and in 1805, a cotton factory were similarly lighted. He began to lecture upon the subject but not until 1810, could a company get a charter for its manufacture. In 1813 Westminister bridge was lighted and in 1815 Guildhall. Still there was great opposition even from scientific men, and there were also great difficulties from want of machinery to make and use the gas. Gun barrels screwed together were used to convey it from place to place. Finally, however, every obstacle was surmounted and now there is not a city of any size in the civilized world which is not lighted by gas.

Before describing the manufacture of gas, the lecturer said a few words in reference to kerosene. This article is a boon to those outside of the cities who cannot have gas, and, said the speaker, properly purified is perfectly safe. The many frightful accidents which occur are due, either to improper purification or to the fraudulent sale of naptha or benzine in the place of kerosene. Nothing in lamps can render poor oil safe, and any lamp is safe with good oil.

The manufacture of gas was then described. The effect of red heat on organic matter either vegetable or animal is to decompose it. If this decomposition takes place in air, it is called combustion, if in a tight vessel, it is destructive distillation. The decomposition of coal in gas-making is an example of such destructive distillation. The process of making gas was then illustrated by means of a large diagram, everything connected with the manufacture being fully and clearly described. Upon a diagram the process was summarized as follows: "Coal, heated in retorts yields coke, which remains behind, and crude gas; which, passing through the hydraulic main, condenser and washer, deposits tar and ammonia water, and passing through the purifier leaves sulphur compounds, carbonic acid, cyanogen compounds, etc., and then goes to the gas-holder as merchantable gas." The components of the gas were delineated upon another diagram. These were divided into three classes-luminants, the principal one being olefiant gas; diluents, the most important being, marsh gas, hydrogen, and carbonic oxide; and vapors. To illustrate the luminant properties of the four gases above mentioned, four rows of burners had been prepared, and in each row one of the gases was burnt, which produced a very striking effect.

The flame and what caused it to give light were then alluded to, and the illuminating power of gas, and the method of comparing this power with that of a candle, was clearly illustrated by means of Bunsen's photometer. The attempt to improve the illuminating powers of gas by passing it through naptha, was clearly shown by an experiment in which the gas after passing through this substance was burned alongside of some that had not been so treated. The whole subject of the distribution of gas to consumers was then explained.

From this the lecturer passed on to meters, and explained and illustrated both with diagrams, and the meter itself, the construction and mode of operation of both wet and dry meters. During the description much practical information in reference to the management of meters was communicated. Burners next claimed attention, and received a thorough exposé. In connection with these the subject of shades was alluded to, and their use condemned as absorbing the light. The advantages of gas were given, and among them its economy was clearly shown. The efforts which have been made to get more light by mixing oxygen with the common gas were illustrated by experiment and their impracticability affirmed. Before closing the lecture, the speaker briefly described the numerous substances that have been obtained from the ammonia water and coal tar —which used to be considered waste products—including the briliant aniline dyes. These were illustrated by pieces of silk and calico all colored by these dyes, by solutions in tall glass jars, and by a large boquet of white flowers which, when scattered over with the dyes and moistened with alcohol assumed their various colors. In closing, the lecturer referred to gas as the sunlight of ages ago stored away for our use, and said that in view of the wonderful discoveries in the waste products of coal making, we might almost think there was little left to be found out. Thus we have in chemistry the true philosopher's stone, which not only changes every base substance into gold, but in every way advances true civilization.

The lecture, but the merest outline of which is given above was replete with information from beginning to end. It was the best of the course thus far. The audience gave their undivided attention for over two hours, and frequently manifested their approval in applause. Professor Chandler is a very easy speaker, with a lively and energetic delivery, evidently a perfect master of his subject, and is very lucid in his statements.

LITERARY.

Wilson, Hinkle & Co., Cincinnati and New York, announce several new publications, as now ready or in preparation. A new edition of "Pinneo's Guide to Composition," a series of practical lessons, designed to simplify the art of writing composition, is now ready. It is a 12mo book, in cloth binding and contains 162 pp. Thalheimer's Ancient History will be published early in 1872. It is to embrace a period extending from the earliest times to the fall of the Western Empire, A. D. 476. The book will be an 8vo., and containing about 360 pages, with a pronouncing vocabulary, and will be illustrated with engravings, maps and charts. "A School History of the United States," by W. H. Venable is announced as in preparation. It is to contain about 360 pages, 12mo, and be illustrated with views, portraits, maps and charts. It is said that one of the characteristics of this history will be a just prominence to the history of the great West. . . . "The Educational Year Book for 1872," to be published by A. S. Barnes & Co., for the National Teachers' Publishing Association has been delayed a few weeks by the difficulties of procuring the materials, and by a desire to render the work as complete as possible. It is now announced to be ready for delivery on Saturday, February 10th. From a survey of its contents we should judge that it will be a work almost indispensible to all interested in educational matters.

Magazines.—The February number of *Harper's* opens with an account of "The Scott Centenary at Edinburg" and is followed by a second paper on "Holland and the Hollanders" in which is given a description of the diamond cutting of Amsterdam. There is also an interestering article on "Old Books in New York," in which some of the curiosities in books which were in the store of William Gowans who lately died in New York are described. Gowan was an assiduous collector of rare books and, it is affirmed in this article, that at his death he had about two hundred and fifty thousand bound volumes, besides pamphlets innumerable. A dozen pages of this number are deyoted to "The Days of Queen Anne, and eight more to "The Payroll of Christendom." There are also "A Curious Prediction" which was in reference to the great fire in London, and "Building a House with a Tea Cup," a temperance story which will be read with pleasure. There are several other articles of interest, and the editorial parts of the Magazine are full and interesting.

Odd and New for the month, has a long article made up of the "Unpublished Writings of Washington," which gives an account of Braddock's defeat somewhat different from that usually received. Thomas Mehan indulges in some curious physiological arguments in reference to the woman question under the title "Sexual Science." "The Vicar's Daughter" is continued through five chapters, and "Six of One by Half a Dozen of the Other," through four. There is also a long and minute account of "The Wagoner Festival in Berlin." The number is christened a Washington number, and justly, for it contains no less than six articles, each devoted to something in reference to the Father of his Country.

Messrs. J. B. Lippincott & Co. are bringing English Periodicals before the American people with commendable frequency. In addition to the *Contemporary Review* they now publish *The Saint Paul's Magazine.* The January number just received contains a variety of interesting articles, some of which however, have already appeared in one or two of the American eclectics.

The illustrated Annual of Phrenology and Physiognomy, issued by S. R. Wells, New York, has been received. It contains, besides considerable other matter of interest,—if any one is interested in the subject and believes in it,—portraits and character sketches of quite a number of eminent men, among whom are Charles Sumner, Emperor William and several of his Generals, Paul B. DuChaillu and others.

The first number of the *Home and School Journal* published by John P. Morton & Co., Louisville, Kentucky, is on our table. It is an octavo monthly, the official organ of the state superintendent of Public Instruction, and is to be devoted to literature and popular education. It is furnished for $1.50 a year.

Logarithmic and Trigonometric Functions.* —This new set of tables with its large, black figures and wide spacing, will be an agreeable relief to one accustomed to look out logarithmic and trigonometric functions in college text books. In size and print it is superior to anything of its kind we have seen. Unless it should be furnished with a stiffer binding it could not be very conveniently used in a recitation room; but on the study table, or in an engineer's office, it would certainly be much more easily and rapidly handled, than any tables ordinarily used.

It ought certainly to be accompanied by a page or two of explanations; for in its present form it will be useless to many for want of a few hints as to what some of the tables mean. Certainly, one who can use the tables as they stand is fit to fill any position of "trust or profit," under the most stringent regulations the Civil Service Commission may propose.

* *Three and Four Place Tables, of Logarithmic and Trigonometric Functions.* By James Mills Peirce, Professor of Mathematics in Harvard University. Boston. Ginn Bros. 1871.

Water and Land.*—This is the third of the attractive series of Books entitled Science for the Young. Mr. Abbott is well known as the most entertaining of American juvenile writers. From the days of the Rollo books down, children have been delighted, and, what is better, instructed too, with his charming stories. He uses mostly the coversational form of statement, some older person generally communicating the facts, and the children putting such interrogations as they please con-

* *Water and Land*.—By Jacob Abbott, Author of "The Franconia Stories," "Marco Paul Series," "Young Christian Series, "Harpers' Story Books," "Abbott's Illustrated Histories," etc. With numerous Engravings. 12mo, pp. 330. New York, 1872. Harper & Brothers.

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cerning them. It has always seemed to us that in early life, when the observant faculties are sharp and the mind active, the child should be trained in science; should be taught to observe phenomena, and, so far as he is able, to reason upon them. Exactly such information should be given him for example, as Jonas gave to Rollo, or Beechnut to Lucy or, in the book before us Lawrence—who, by the way, had just completed his course of study at the Scientific School at New Haven—to John. It is in this direction that we think Mr. Abbott in writing, and the Messrs. Harper in publishing such books as the one before us, are doing a most excellent work in the cause of education. We heartily commend the new volume to the notice of our readers.

Fireside Science.*—We have here presented to us, in a very attractive form, a series of twenty-three essays upon popular science, most of which have already appeared in the columns of the *Boston Journal of Chemistry*, of which the author is the energetic editor. Dr. Nichols has been very happy both in selecting his subjects and in treating them. He writes in an easy, familiar style, free from technicalities and yet full of instruction. His titles are often felicitous; thus he writes on the chemistry of a Pint of Kerosene; of a Cigar; of a Hen's Egg; of a Lump of Sugar; on Rebreathed Air; on The Lost Arts, etc. The essays on "What Shall we Use for Water Pipes" and on "Experiments with Air Furnaces," are eminently practical and in the main, just. He objects to all water pipes and to all air-furnaces now in use. The defects of air-furnaces are, as he states: "*first*, the employment of *cast-iron* in the interior construction;" *second*, the pressure of joints in the air-chamber, which cannot be made perfectly tight by lutes, or cements; *third*, arranging the air-chambers or flues so that ashes and dust can pass into the air-current; *fourth*, the imperfect arrangement of smoke flues and dampers, by which great loss is incurred from incomplete combustion; *fifth*, needless complication, and consequently needless expense in construction. The book is at once readable, entertaining and instructive.

* *Fireside Science.*—A series of Popular Scientific Essays upon Subjects connected with Every-day Life. By James R. Nichols, A.M., M.D., author of Chemistry of the Farm and Sea, and Editor of Boston Journal of Chemistry. 12mo, pp. viii, 283. New York. 1872. Hurd & Houghton.

Poems.*—In this volume Mr. Butler has collected together a large number of poems, many of which have been for several years past floating through the newspapers, and some of which are familiar to all cultivated readers. As here arranged, they are divided into Poems of Travel, Poems of the City, Miscellaneous Poems, and Translations from the German Poet, Uhland. They nearly all show poetic sensibility, but it can hardly be said of any of them that they manifest much poetic power; though it would be gross injustice to deny that they are far superior, both in design and execution, to the great mass of fugitive poetry, composed under similar circumstances, and which finds its home and likewise its grave in magazines and weekly newspapers. Mr. Butler is well and widely known as an eminent lawyer, and in the dedication of this volume distinctly disclaims any intention of ever having cultivated poetry as an art or of practicing authorship as a profession. But literature is a jealous mistress of the mind, and no permanent success can he hope for who does not devote himself to it with his whole heart. Especially is this true in the highest form of literature, poetry; and he who is unwilling to pay the price can not reasonably hope to gain the reward. That poetry which is not written for its own sake but for the sake of diverting the mind from more serious employments, may be pleasant to read, may be suggestive in passages, may be at times felicitous in expression, all of which can be truly said of the contents of this volume; but it will not and cannot exhibit those higher qualities of literature which make a work worth printing and reading; and in this point of view this book has hardly a just reason for its existence.

* *Poems.* By William Allen Butler. Boston: James R. Osgood & Co. 1871.

Of the poems themselves, the translations from Uhland seems to us the poorest, and the favorite *jeu d'esprit* "Nothing to Wear," much the best. The kind is not a high one, to be sure, but it is one of the very best of its kind. The longest poem in the volume is 'Two Millions,' which some of our readers may remember as having been originally delivered before the Phi Beta Kappa Society of Yale College in 1858. Besides those which have been mentioned, there are two or three poems not included under the general divisions, with one of which "Virginia's Virgin," the book opens. It is the story of Pocahontas told over again, and contains in the beginning a protest against the remorseless iconoclasm which threatens to turn that story into a lying legend.

The Last Tournament.*—This poem forms one of the "Idylls of the king," and takes its place between 'Pelleas and Ettarre' and Guinevere. Necessarily it belongs to the later years of Arthur, when the Round Table was breaking up, and its heroes are becoming dishonored or are passing away. We give the story as told in this latest poem of the Laureate, adding some particulars which will be necessary to make it clear to those who are not familiar with the Arthurian legend.

King Arthur and Sir Lancelot, as they were one day riding together under a rocky wall, heard the wail of a child. With great difficulty and danger Sir Lancelot scales the rock, climbs the stump of an oak tree projecting from it, and from an eagle-nest enclosed in it rescues a maiden babe with a ruby necklace wound thrice about the neck. The king gave the infant to the queen to rear; but the child died, and Guinevere delivered the carcanet to Arthur, telling him to make of it a tourney prize, saying,

> "Perchance—who knows?—the purest of thy knights
> May win them for the purest of my maids."

So the tournament—the last tournament—was ordered. But on the day before it was to take place, a churl came into the royal hall with his face scarred with dog-whip-weals, his nose broken, one eye out, and one hand cut off, and complained of the injury done him by one who called himself the Red Knight, who had not only maimed him thus, but sent a defiant and abusive message to the king. Thereupon Arthur left Sir Lancelot to sit in his place and preside over the tournament while he himself at the head of his younger knights went to the North to put down this last rebellion. The morning of the tournament came gloomy and wet, with Lancelot as umpire, who, sick at heart paid little heed to the jousts, nor even interfered when the laws were broken. At last came the ancient rival of Lancelot himself, Sir Tristram of the Woods, who had just returned from overseas in Brittany, and from his marriage with the daughter of King Hoel, Isolt of the White Hands. Before this redoubted knight all shrank back, and he easily won the prize. On the next day, after an altercation with Dagonet, the king's fool, Sir Tristram with his tourney-prize goes on his way to the West, to see his former love and mistress, Isolt the Fair, the daughter of the King of Ireland and wife of Mark, King of Cornwall. Doubting the reception he would meet from her in case she had heard of his marriage, he yet pursued his journey, and found her, with her hated husband absent, in the castle of Tintagil. She receives him with passionate affection intermixed with some reproaches. Just as he has thrown around her neck the ruby carcanet, the tourney-prize; just as his lips had touched hers, his brain is cloven by Mark who had come up behind unperceived. In the meanwhile Arthur had returned from his expedition to the North in which he had stormed the castle of the insurgent lord and put all the occupants to the sword. But he returned to find the Queen's bower dark and the Queen gone. Lancelot and she had fled.

* *The Last Tournament.*—By Alfred Tennyson, Poet Laureate. Boston: J. R. Osgood & Co. 1872.

Such is the story in full, though as told in the idyll certain details here given are only alluded to and not stated directly. In the execution, the present poem differs little or rather not at all from the various others that have preceded it in the series. Sir Tristram hardly appears to be the favorite with Tennyson that he is with the old romance-writers; and in the following song put into his mouth, the poet seems to have had in mind the modern order of free-lovers:

> "Free love—free field—we love but while we may:
> The woods are hush'd, their music is no more:
> The leaf is dead, the yearning past away:
> New life, new love—the days of frost are o'er:
> New life, new love to suit the newer day:
> New loves are sweet as those that went before:
> Free love,—free field—we love but while we may."

ALUMNI REUNION.

YALE ALUMNI IN BOSTON.

The seventh annual supper of this association was celebrated at the Parker House, on Monday evening, Jan. 29th. A business meeting was held in the hotel parlor, and the following officers unanimously elected for the ensuing year:—President, Sereno D. Nickerson, Class 1845; Vice-Presidents, His Excellency Wm. B. Washburn, Hon. W. G. Bates, Hon. Julius Rockwell, Hon. Wm. W. Hoppin, Hon. John P. Putnam; Secretary and Treasurer, George R. Marble; Executive Committee, the President and Vice-Presidents *ex-officio*, Asa French, Addison L. Clarke.

After a few modest remarks by the newly chosen president, the association adjourned to the dining hall, and soon were engaged in doing ample justice to Mr. Parker's excellent supper. After this had been disposed of, and a liberal distribution of cigars had produced a genuine Yale social atmosphere, President Nickerson opened the speaking with some humorous allusions, and called upon President Porter. The President was enthusiastically received with three rousing cheers, and began his remarks by inviting every one present to visit the college and see what they were doing; they would be in charge of the faculty from the time they arrived until they left. (This remark caused immense hilarity.) The true idea was, to superinduce the university upon the college, not to introduce it into the college. We have no idea of spoiling a good college to make a university; rather let us keep our good college and add to it a noble university, and let the scholars remain seven years instead of four. Yale has already 45 graduate students, more than any other university in the country. If the gentlemen present wished to know what we are now doing, he had no doubt that the members of Yale Glee Club present would be happy to submit to an examination, which, for the sake of fairness, should not be conducted by the faculty. Finally, in a word, the policy of Yale would be to adhere to the old method of liberal education, with a generous recognition of all that seems advantageous in the new.

After the Glee Club had sung "Here's to good old Yale, drink her down." Mr. Nickerson called up Gov. Washburn by remarking that, in spite of his Excellency's strong prohibition principles, he did not believe that he would be in favor of suppressing Porter. The Governor, after congratulating himself upon being present, spoke of his recent investigations into the subject of education in his State, which he was anxious to advance in every possible manner; yet after all, though it might seem like treason, he could not help wishing that Yale might be always a *little* ahead. He deplored the expensiveness of education to-day, a fault perhaps of the times we live in, and compared his own expenses with those of his son; but be this as it may, every son of Yale must desire to see her take the lead in the great work.

Prof. Thacher, being called upon, did not feel very old when he saw his old schoolmaster present, who

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taught him to inflect *amo*; yet he could remember once when he was calling off the order of the commencement procession, how an old gentleman came up to him and asked "Has the class of 1779 gone yet?" In reply to Gov. Washburn, he said a student can now earn ten dollars where he earned one then; he himself had taught school for $8.50 a month. They could tell how old he was by looking at his friend Butler as to whom he was uncertain whether he was the author of "Revealed Re-Religion, or of Hudibras, but he rather thought the latter.

Whereupon the Rev. Daniel Butler was called up, and was immediately reminded of a story. A graduate of the Emerald Isle was set to work carting gravel; filling the cart was a simple matter, but how to dump it puzzled him. At last the idea struck him, and striking the horse forcibly under the belly he shouted, "Rare up ye divil." He thought he had been asked to "Rear up." He also told about a young man out West, (this was for Chamberlan's benefit,) who wrote to his father, "Come out West, for ever so mean men get offices out here."

Prof. Lyman was next called upon to represent the Scientific School. He referred to the ease with which new departments can be added to the university under the present system, and was happy to state that a gentleman had devoted the proceeds of an investment which would probably net $400,000 to the establishment of an astronomical department.

Dr. Blagden, being called up, said that old Prof. Silliman sometimes said in beginning, "Now, gentlemen, let us analyse the gas." Perhaps they wished him to analyse the gas that had been let off! He spoke very feelingly and eloquently of the fraternity existing between all Yale men, and was proud to met such men as he saw about him as brothers.

Short speeches were made by Judge Foster, '48; Asa French, '51; Leander Chamberlan, '63; by Luther M. Jones, in behalf of the New York Yale Association; by Rev. Dr. Tarbox. '39; Addison L. Clark, 58; Geo. R. Marble, '58: Rev. M. Vose, of Providence, and C. G. Came, '49, of the Boston *Journal*.

An invitation was read from the Philadelphia Yale Association, requesting that Boston send a delegation to their supper on Thursday evening; and Messrs. Nickerson, French and Clarke were selected to represent the association upon that occasion.

During the evening the Woolsey fund was frequently referred to as something which must be made to succeed, and several gentlemen pledged contributions upon the spot.

The excellent singing of the delegation of the Yale Glee Club added much to the pleasure and conviviality of the occasion, and let it be hoped that this feature of the supper may not be omitted in future years. It was agreed that this was the pleasantest supper this association had ever enjoyed, and long after the presiding officer had notified the guests the hour of 12 was past, old friends, long separated, lingered about the wreck of the supper, and talked of the jolly times they used to have at "dear old Yale."

COLLEGE RECORD.

Swathmore College, (Philadelphia, Penn.)—This institution founded three years ago by the Quakers, is situated about ten miles from Philadelphia on the W. C. and P. R. R. The college building is an imposing edifice about 300 feet long and five stories high, built of stone, and in the most substantial manner. It consists of a centre building of about one-quarter the entire length and two wings, all of which is finished in a most elaborate manner. The recitation rooms are neat and pleasant, and there is everywhere a spirit of order which is exceedingly agreeable. There are about two hundred and fifty students composed of both ladies and gentlemen. The students board in the institution. There are connected with the college three preparatory classes in which children from twelve years of age and upwards are fitted for entrance to the higher institution. The first class graduates next year.

Lehigh University, (Bethlehem, Penn.)—The register of this institution, for 1871-72, just issued, consists of thirty-two pages, and gives an interesting account of the plan of organiztion, and the course of instruction pursued. Lehigh University was founded in 1865 by Asa Packer who, without solicitation, gave the sum of five hundred thousand dollars, and an eligible spot of ground in South Bethlehem, containing fifty-six acres, for the purpose of establishing an educational institution. The grounds have since been enlarged by the additions of seven acres given by Charles Brodhead. In the plan of education particular attention is paid to those industrial pursuits which tend to develop the resources of the country, and instruction is given in civil, mechanical and mining engineering, in chemistry, metallurgy, architecture and construction, and in the modern languages. Through the generosity of the founder, tuition in all branches and classes is now free; no charges are made for rooms in the university buildings, and the annual expenses for board, books and washing amount to two hundred and forty-five dollars. The students for the scholastic year 1871-72 are seventy-two in number, of whom thirty-four are in the first class, fifteen in the second class, ten are Junior schoolmen, and thirteen are senior schoolmen. The preparatory class consists of forty-nine pupils.

Randolph Macon College, (Ashland Va.)—This institution is the oldest college of the Southern Methodist church. It was founded in the year 1832, and its presidential chair has been successively filled by the Rev. Stephen Olin, D.D., LL.D.; Landon C. Garland, LL.D.; Rev. Wm. A. Smith, D.D.; Col. Thos. C. Johnston, A.M., the present incumbent. It is located in the beautiful village of Ashland, sixteen miles north of Richmond, immediately on the line of the R., F. and P. railroad. A depot of the Chespeake and Ohio railroad is only four miles distant. A telegraph office is within one hundred yards of the college grounds. The buildings are situated in a beautiful grove of oaks; and an extensive lawn affords ample opportunity for healthful physical exercise.

The course of study embraces Latin, Greek, English, French, German, Pure and Applied Mathematics, Natural Philosophy, Chemistry, Moral Philosophy, Metaphysics, Biblical Literature, and Oriental Languages. These subjects are distributed into separate schools. The method of instruction is by text-books and lectures, and the effort is constantly made to secure the most thorough scholarship. All students preparing for the ministry are exempt from tuition fees, and this privilege is also extended to the sons of the itinerant ministers of the Virginia and Baltimore conferences of the M. E. church, South. The most liberal terms are made with young men in indigent circumstances. Of the one hundred and fifty matriculates of the present session, sixty-seven are wholly exempt from tuition fees. A feature of the institution is the prominence given to the Bible and its study. The lectures on Biblical Literature are free to all the students and it is affirmed that a session has never closed without witnessing the conversion of souls.

Massachusetts Institute of Technology, (Boston, Mass.) — This institution provides a four years' course of scientific and literary studies and practical exercises, embracing pure and applied mathematics, the physical and natural sciences with their applications, drawing, the English language, mental and political science, French and German. The course is so selected and arranged as to offer a liberal and practical education in preparation for active pursuits, as well as a thorough training for the professions of the civil, mining, and mechanical engineer, chemist, metallurgist, architect, naturalist, and teacher of science. All the studies and exercises of the first and second years are pursued by the whole school. At the beginning of the third year, each student selects one of the following special courses of study:—I. Mechanical Engineering. II. Civil and Topographical Engineering. III. Geology and Mining Engineering. IV. Building and Architecture. V. Chemistry. VI. Science and Literature. VII. Natural History. These courses differ widely, but certain general studies are common to them all. It is intended to secure to every student whatever his special course of study, a liberal mental development and general culture, as well as the more strictly technical education which may be his chief object. The course in science and literature, and the course in natural history differ from the others in having a less distinctly professional character. The former offers a sound education, based on the sciences and modern literature, and furnishes, with its wide range of elective studies, a suitable preparation for any of the departments of active life, or for teaching science. The course in natural history affords an appropriate general training for those whose ulterior object is the special pursuit of geology, mineralogy, botany, zoology, or of medicine, pharmacy, or rural economy.

Michigan University, (Ann Arbor, Mich.)—At the recent meeting of the board of regents of this institution, a resolution was adopted asking among other things for an additional appropriation from the state, of $15,000 for the new University building now being built. The time for beginning the work of the college year was also changed so that the examinations for admission will hereafter be held on the Thursday next following the 16th of September and the regular session of the semester begin on the Wednesday following the examination. Approval was also given to an announcement by the faculty in reference to the admission of students of the high schools of the state of Michigan without examinations. The plan is that a committee of the faculty will visit once every year any public high school on request of its School Board and report its condition to the faculty. If the faculty shall be satisfied from such report that the preparatory courses of study in the school thus visited embraces all the subjects required for admission to the university, and are taught by competent instructors, then the graduates from such preparatory courses will be admitted to the Freshman class without examination. Several minor appropriations were made and also the following: contingent expenses, $1,000; repairs, $500; fuel and lights, $400; annual catalogue, $1,200; insurance, $600; postage, $100; apparatus for illustration in Medical Department, $100. The report of the treasurer presented the following exhibit: Balance to credit of building fund, $1,749.80 (this fund owes the general fund $4,200); state aid fund, $1, 730.20; reserve fund, $1,941; general fund, $18,338. 31. The general fund will be increased in a few days by $11,750, and reduced by over $21,000 for salaries, appropriations, etc. The outstanding time warrants held by the Second National Bank of Detroit are dated July 31, $6,000; September 1, $8,000; October 1, $10,500; November 1, $13,000; total, $37,500, with interest due on coupons March 1, 1872. The annual report of the Board of Regents was read of which the following is an abstract: While various changes have been made during the year in the administration of the affairs of the university, some of which were inaugurated with no little misgiving, thus far all seems to have worked together for good in strengthening it and bringing it into closer relations with the people. The admission of women to all its departments, instead of resulting disastrously, as was feared by some, has thus far, though an experiment proved salutary in the sympathy thus awakened among the people, and in furnishing, as we believe a university should, the means of higher culture to all the citizens of the state who will avail themselves of its provisions. After careful consideration of various plans, the Board has decided to expend the legislative appropriation in erecting a large central building connecting the museum and south building, to be named "University Hall." When completed it must contribute largely both to the usefulness and attractiveness of the university. More intimate relations have also been effected between the university and the high schools of the state, by which a more perfect grading of all courses of study is effected, having their culmination in the university course. The

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whole number of students registered in all the departments is 1, 110, of whom 488 are in the Literary Department, 307 in the Law Department, and 315 in the Medical Department. This is a marked increase over former years in the Literary Department, and shows a small falling off in the other departments.

Yale College. (New Haven, Conn.)—The week at Yale has developed a number of very interesting items but no very radical changes. First among these may be mentioned the

LECTURES TO MECHANICS.

The seventh course of lectures to mechanics, at the Sheffield Scientific School, will commence Monday, February 5th, and continue Monday and Thursday evenings through sixteen lectures. The tickets for the course are one dollar, and are to be obtained at the book stores of T. H. Pease, and Judd & White. The following is the programme: I. Feb. 5, Introductory Lecture:—Relations of Mind and Matter, Pres. Porter; II. Feb. 8, Principles of Elocution, Mark Bailey; III, Feb. 12, Recent Contributions to American Geography, D. C. Gilman; IV. Feb. 15, Our Common Weeds, D. C. Eaton; V. Feb. 19, Reserved for Rev. B. G. Northrop; VI. Feb. 22, Origin of Microscopic Living Forms. W. H. Brewer; VII. Feb. 26, To be announced; VIII. Feb. 29, Phosphorus, S. W. Johnson; IX. March 4, Tilghman's Sand-Blast Engraving Process, G. F. Barker; X. March 7, Steam-Engine Indicator, C. B. Richards *(Hartford)*; XI. March 11, Forces of Inanimate Nature, W. A. Norton; XII. March 14, The Prismatic Spectrum, C. S. Hastings; XIII. March 18, The Telescope, C. S. Lyman; XIV. March 21, Color, J. H. Niemeyer; XV. March 25, Steam-Boilers, W. P. Trowbridge; XVI. March 28, The Darwinian Hypothesis applied to the Human Race, A. E. Verrill.

DR. RIMMER'S LECTURE.

The lecture by Dr. Rimmer of Boston, upon the Anatomy of the Human Form which was announced to take place, January 26th, did not occur owing to the illness of the lecturer. It will be delivered on Friday evening, Feb. 9th. Dr. Rimmer has lectured to large audiences both in New York and Boston, and has met with distinguished success. The lectures are not strictly technical, but have a wide and popular interest. They are illustrated by drawings upon the black-board which are executed with the greatest facility and precision. It is expected that the opening lecture will be followed by a course upon the same theme. It will be remembered that the tickets may be had at the Art Gallery, at Cutler's, and at Skinner & Sperry's.

HENRY WARD BEECHER'S LECTURES.

The first of the course of lectures on Preaching by Rev. Henry Ward Beecher, before the students of the Divinity school was delivered Wednesday afternoon and the second Thursday afternoon last. They are very numerously attended.

MISCELLANEOUS MATTERS.

A writer in the current number of the Yale *Courant* affirms that the present method of supplying the college pulpit, by having no stated pastor but obtaining as far as possible some different preacher each Sunday, works well, is giving general satisfaction, and commending itself to almost everybody.

The Juniors have at last succeeded in obtaining a *Lit.* Board. The last man, Tarbell, was added by appointment of the present Board. The new Board now stands as follows: Samuel O. Prentice, North Stonington, Conn., Chairman; W. Beebe, Warsaw, N. Y.; Wm. A. Houghton, Holliston, Mass.; Hart W. Lyman, Northampton, Mass.; Frank B. Tarbell, West Groton, Mass.

The fourth of the Berkeley sermons was delivered last Sunday by Rev. Dr. Vinton, of Boston. Bishop Williams, Middletown, Conn., was to have delivered the fifth of the series, but owing to illness, his sermon will probably come later. The preacher for next Sunday evening remains to be announced.

The first invoice of French books received from Paris since the war, reached the Library last week. A large number of the volumes belong to the Oriental Library founded and provided for by Prof. Salisbury. The remainder are works upon French Literature.

Among the subscriptions to the Library fund of the senior class, is one of $75 from the father of S. P. Coomes, one of the deceased members of '72.

The Hopkins Grammar School now boasts of one hundred and seventy scholars, and the number is still increasing. The present senior class (which comes to Yale next year) is an unusually large one.

The fourth of the lectures on Greek Sculpture was delivered last Monday evening.

It is stated that a meeting is soon to be held in New Haven, to organize the Alumni members of Psi Upsilon.

The Freshmen Class of the Scientific School have elected the following officers: Jared S. Torrance, Gowanda, N. Y., President; Richard D. A. Parrott, Greenwood Works, N. Y., Vice-President; Beverly Livingston, Garrison, N. Y., Treasurer and Secretary; and W. R. Upham, Yonker, N. Y., and John C. Weber, New York City, Historians.

The class of '75 in the academical department have elected class deacons as follows: Wm. H. Jordan, Oakland, Cal.; Z. S. Holbrook, Chicago, Ill.; and F. E. Snow, Waterbury, Conn.

Mr. Greene Kendrick, '72, is contributing a series of sketches, containing what he saw in Europe, last summer, to the evening *Register* of this city.

The scene of '72's class picture will be the Chapel in which the class will appear, some sitting, some standing and others variously grouped together. The process by which this is done, is one of Notman's specialities and is as follows: He first takes a photograph of the interior of the Chapel, then at his gallery a photograph of each member of the class in an appropriate position; then by putting the former and latter together and taking another photograph he accomplishes the desired result.

Professor Gilman delivered the annual address before the Geographical Society in Cooper Institute, New York, last Sunday evening on "American Contributions to Geographical Science during the last year."

GIFT TO THE DIVINITY SCHOOL.

Mrs. Mary Ann Goodman, a colored woman of New Haven, who recently died, left her whole property, amounting, it is supposed, to some $5,000, to the scholarship fund of the Theological Department of Yale College, in aid of the colored young men preparing for the ministry in that institution, with the provision, that, if at any particular time, it should not be needed for this special purpose, it may be applied to the support of other students in the Seminary. With the exception of what was left to her, several years since, by her deceased husband, this liberal donation is the fruit of a life-time of humble toil. Mrs. Goodman was a member of the College street church. She had provided no place of burial for herself and she was therefore interred in the lot in the Old Cemetery belonging to the University of which she has become a benefactor.

YALE PERSONALS.

'37, WAITE.—Morrison R. Waite was appointed one of the Counsel on the Geneva Arbitation Commission and is now at that place.

'43, JENNINGS.—Married in North Coventry, Nov. 15th, 1871, Mr. B. F. Hunt of East Bethel, Vt., and Miss Isabella S., daughter of Rev. Wm. J. Jennings of North Coventry.

'49, FENN.—Rev. Stephen Fenn has resigned his pastorate of the Congregational Church in Watertown.

'51, MCCALL.—Rev. S. McCall has been invited to supply the pulpit of the Congregational Church in Hebron for a year.

'59, '60, TWICHELL, MASON.—Rev. Joseph Twichell of Hartford, and E. G. Mason, Esq. of Chicago, were in New Haven last week.

'60, KINGSBURY.—The Presbyterian Church of which Rev. O. A. Kingsbury, is pastor in the pleasant and rapidly growing village of Wappinger's Falls, Dutchess County, N. Y., is erecting a very beautiful house of worship in one of the finest locations in the village. The building is of brick, in the "pointed Gothic" style, and has some novelties of construction which are decided advantages. It is expected that it will be completed about May 1st, and will cost, with sheds and grading of the grounds, in the neighborhood of $20,000.

'61, PECK.—Prof. Tracy Peck, of Cornell University, has a short article in the *Era* of Jan. 12, on Latin Pronunciation.

'64 HAUGHEE.—Thomas Haughee, a former resident of New Haven, recently died while on his way from Europe to this country, in the Oceanic. He was buried at sea.

'66, BIDDLE.—Chas. P. Biddle is now practicing law at Erie, Pennsylvania.

'69, BEACH.—Dennis Beach is teaching in the "N. Y., Yale School" 1193 Broadway.

'70, CARPENTER.—Z. T. Carpenter taught school in Brooklyn, N. Y., for about a year. Some months ago he obtained a position in the 3rd Auditor's office, Treasury Department, Washington, and was a prominent member of the Potomac Rowing Association. He sailed for Europe, some weeks since in charge of U. S. bonds—the foreign agent for the "Syndicate."

'69, COPP.—A. J. Copp is practicing law at St. Paul, Minn.

'69, DRISCOLL.—At the late convention of the Catholic State Temperance Association for the state of Connecticut, Mr. C. T. Driscoll of New Haven resigned the presidency of that body, and although earnestly requested to withdraw the same, insisted upon its acceptance, which was accordingly done.

69, DURSTON.—J. H. Durston, of Syracuse, N. Y, was married in October to Miss Mary Harwood, of the same place.

'69, EVARTS.—A. W. Evarts commenced the study of law in Nov. 1869, and received the degree of LL.B., from Columbia Law School in 1871. He is in the office of Evarts, Southmayd & Choate, 45 Wall Street, N. Y.

'69, HULL.—Charles S. Hull was secretary and treasurer of the "Allen Machine Works," at Harlem, N. Y., for 16 months ending January, 1871. He is at present with the Continental Fire Insurance Co., 102 Broadway, and lives at 77 Willow Street, Brooklyn, N. Y. *Miss* Hull, the Class *girl*, was born August 28, 1871.

'69, KERR.—Henry H. Kerr is at West Union, Iowa.

'69, MASTIN.—Z. S. Mastin, who left '69 at end of freshman year, passed 11 months in France and Germany; graduated at the Yale Law School in 1868; practiced law in Chicago, for a year and is now at the head of the Chicago Vise & Tool Co., 149 Fulton street.

'69, SWAN.—A Norwich paper of October announced the admission to the Connecticut bar of T. W. Swan, of Lyme.

'69, THAYER.—J. M. Thayer is an attorney at law in Burlington, Iowa.

'69, TRAYNHAM.—John H. Traynham is at Austin Texas, engaged in teaching.

'69, WAITE.—E. T. Waite sailed Saturday, January 27th, in the "Ville du Paris," to join his father at Geneva, Switzerland.

'69, WEITZEL.—C. T. Weitzel is vice principal of a school at Yonkers, N. Y. He expects to continue teaching for two or three years.

'70, ALLIS.—Fred Allis returned from Europe, about the 1st of October, and is now in the Columbia Law School.

'70, BONE.—D. M'Coy Bone is teaching school at Petersburg, Ill.

'70, COOPER.—Married October 11, 1871, at Germantown, N. J., Charles E. Cooper and Miss Britta Carnagham.

'70, COPE.—Orlando Cope at the time of his death, was with an engineer corps surveying for the Rockport and Cincinnati Railroad.

'70, CRAIG.—N. B. Craig and C. W. Kelley '69 and '70, are studying Civil Engineering at the Sheffield Scientific School, where the former expects to remain for two years.

'70, DIX.—Chas. H. Dix is an insurance agent in Cleveland, O.

'70, EATON.—H. W. Eaton has a very good clerkship in one of the departments at Washington.

'70, EDWARDS AND TYLER.—E. J. Edwards and M. F. Tyler, are on the editorial staff of the New Haven *Palladium*, and are also taking a post graduate course of study.

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'70, HESING.—The Chicago fire put an end to Washington Hesing's European sojourn. He is now on the editoral staff of the *Illinois Staats Zeitung*, published at Chicago.

'70, LINDSEY.—Philip Lindsley is an editor of the *Miners' Journal* published at Pottsville, Pa.

'70, LOGAN.—W. S. Logan, abbreviated the two years law course at Cambridge into one, and is at 62 Wall street, N .Y.

'70, MANN.—T. F. Mann, Jr., recently returned from a four months European trip to his law studies at the Albany Law School. P. O. address, Troy, N. Y.

'70, MCCLINTOCK.—Thompson McClintock is with his brother in the saw mill business at Pittsburgh, Pa.

'70, MORROW.—Samuel Morrow is still teaching at the Hopkins Grammar School, in New Haven.

'70, NEAD.—Benjamin N. Nead has been studying law since graduation at his home in Chambersburg Penn.

'70, PERRY.—J. F. Perry has been teaching at Bridgport, Conn.

'70, REEVE.—The *Minneapolis* (Minn.) *Tribune* says: Mr. C. M. Reeve has purchased the farm known as the "Thornton Place" on Lake Harriet. For the information of the public he has posted the following sign in a prominent place on the premises, "Mrs. Thornton does not live here. Boarders cannot be accomodated, neither can they get dinner at this house. No boats to let or live bait for sale. There is no road to Richfield through these grounds. This property contains 250 acres and is not for sale."

'70, SWAYNE.—N. H. Swayne is in the Georgetown (D. C.,) College Law School.

'70, WORDIN.—N. E. Wordin has been connected for some time with the Jefferson Medical College in Philadelphia.

'71, COLLIN.—Fred Collin is engaged in the healthful and invigorating occupation of a practical agriculturalist at Penn Yan, New York.

'71, LEA.—R. B. Lea is at present in Tallahassee, Florida, recuperating his health. He is much better than he was six months ago, and now weighs more than at any time previously for three years.

'71, SWEET.—E. T. Sweet is at present traveling up the Nile. He has just visited the Pyramids.

'72, WHITCOMB, (T.)—C. B. Whitcomb of the present senior class in the Theological seminary, has accepted a call to the Congregational church at Derby, Conn.

GLEANINGS.

PERSONAL.

— Professor Darby of Kentucky Wesleyan University, spent the last vacation in a trip to the Mammoth Cave.

— Professor Frieze of Michigan University has been allowed another year for study and recreation in Europe.

— Rev. Dr. Cattel, president of Lafayette College will be absent from the college during a large part of the present term. Most of his time will be spent in New York.

— Prof, John D. Parker, Ph.D., formerly of Washburn College, has been appointed superintendent of the Kansas Blind Asylum, at Wyandotte, and has commenced his duties.

— Professor S. D. Wilcox who occupies the chair of logic rhetoric and elocution, at Hamilton, is unable to attend to its duties this term. His place is filled by Prof. John S. Lewis of Madison University.

— The trustees of Princeton College have offered their chair of English literature and rhetoric to Professor John S. Hart, long the successful principal of the Philadelphia High School and the State Normal School of New Jersey.

— Prof. Frank H. Snow, of the Kansas State University, at Lawrence is preparing a paper on the birds of Kansas. He has already identified 164 species. Prof. Snow has been invited to a chair in one of the New England colleges, but the people in Kansas have concluded that they cannot spare him.

— Rev. R. Fisk. Jr,, D.D., President of St. Lawrence University has accepted an invitation to a pastorate at Grand Rapids, Mich. He removes at once, with a salary of $3,000, and an advance of $500 the second year. Prof. Marston succeeds Dr. Fisk *ad interim*, as President of St. Lawrence University.

— Rev. Dr. Ezekiel G. Robinson who has just been elected to the presidency of Brown University, is a native of Massachusetts, having been born in Attleborough, in the year 1815. He was educated at the University over which he is called to preside, having graduated in the year 1838. Dr. Robinson has devoted all his energies to teaching, having been connected with the Rochester theological seminary from its beginning. He thus brings to his new sphere of labor a large and varied experience, and a widely established reputation as a scholar, divine and educator. He is familiar not only with ancient lore, but with the languages and literature of the present day, having traveled in Europe and availed himself of the best sources of modern culture. In 1865 he revised and corrected Ryland's translation of Neander's "Planting and Training of the Christian Church." He has published various addresses, and from 1859 to 1864 he edited the Christian Review. His education, tastes and past pursuits admirably qualify him for the important position to which he is invited.

COLLEGE.

— A writer in the Amherst *Student*, pleads for an Art Gallery in connection with that institution.

— A work on Michigan University is in course of preparation and will be published within a year.

— The new University building at Ann Arbor, is now enclosed and the workmen are engaged on the inside work.

— A new library building for which the sum of $120,000, has been subscribed is being erected at Princeton College.

— The students of Lafayette College, Easton, Penn., nearly all returned at the opening of the present term notwithstanding the rebellion and small pox scare of last term.

— Mr. O. J. Harvey of the last class in the Lafayette College, has established a prize of twenty dollars to be given to the best scholar in English studies during junior year.

— The Montgomery County (Ohio) Medical Society, at a late meeting, passed resolutions of approval of the recent change in the course of medical instruction in Harvard University.

— The editors of the Amherst *Student* in view of recent utterances in reference to the decline of Williams College extend an invitation to that institution to shut up shop and come over and join Amherst.

— A bill has been reported in the Massachusetts legislature providing that the five trustees of Amherst College, heretofore elected by the legislature, shall hereafter be chosen by the alumni of the college.

— The Kansas Academy of Science, has published a full report of the history and proceedings of the society, since its organization three years ago, in the recent report of the Superintendent of Public Instruction, of Kansas.

— The library of the University of Vermont, received last week, from the Hon. Frederick Billings, of Woodstock, the gift of a copy of Lord Kinsborough's Mexican Antiquities, in nine volumes. This is one of the rarest and most costly of English publications.

— At the twenty-ninth annual commencement of the Rush Medical College, Chicago, Ill., recently held a class of seventy-seven graduated. The valedictory oration was delivered by Dr. O. J. Adams. During the evening a handsome case of surgical instruments was presented to Dr. Gunn, professor of surgery.

— A long time ago money was subscribed by the Alumni of Union College, to build a chapel, and the foundations were laid in 1858, but work upon it ceased and nothing has been done since. But now it is expected that during the coming summer, the building will be erected. Hon. Clarkson Potter, has advanced a handsome sum for the purpose. It is to be built of Schenctady stone, trimmed with Ohio sand-stone and will contain several elegant rooms for college purposes.

— Hon. H. G. Knight. of Easthampton, has given Amherst College three very valuable earthen vases which were removed from a mound near St. Louis, Mo. Mr. Knight bought them expressly for the college. T. M. Stoughton, of Gill, near Turner's Falls, Mass., has also presented to the cabinet a barrel of Indian bones. They were the remains of thirteen Indians found buried in a semi-circle with their feet towards the centre, and are supposed to have fallen in a battle with the whites during the early settlement of the country.

LITERARY.

— "Caste and Sex," a new book on the woman question, by Mary Clemmer Ames, Washington correspondent of and contributor to the *Independent*, will soon be ready.

— J. B. Lippincott & Co. have assumed the publication of Sharswood's edition of Blackstone's Commentaries, Bouvier's Institutes of American Law, and Bouvier's Law Dictionary.

— *The Physical Atlas of France*, constructed by the Observatory of Paris, will be published under the direction of M. Delaunay, Director of the Observatory, and M. Marie Davy, chief of the Meteorological Service.

There will be more than 250 languages represented in Trübner's forthcoming "Catalogue of Dictionaries and Grammars of the Principal Languages and Dialects of the World." Only useful and attainable works will be mentioned.

— Dodd & Mead's first spring publications will include Hesba Stretton's novel, "Bede's Charity;" "Bible Lore," a volume on the rare MSS., notable characteristics, etc., of the Bible, deferred from fall; and a new edition of "Lamps, Pitchers, Trumpets."

— G. P. Putman & Sons have in press The Best Reading, a guide for Librarians and Book-buyers, including Suggestions for Household Libraries, with Hints for Systematic Reading, and lists of the most desirable and important books, under 500 subject-headings.

— The Putnams have arranged with Mlles. Selma Borg and Marie A. Browne, translators of the Schwartz novels, for translations of those of Aug. Blanche, who is highly spoken of as one of the most interesting and popular Swedish fictionists. The first volume, "The Bandit," will be issued in February.

— J. Sabin & Sons have in preparation a little work called "The Book Buyer's Assistant in the Formation of a Choice Library, being a Catalogue Raisonné of the best editions of the best writers on subjects of general interest. A few copies will be printed on writing paper, on one side of the page only, so as to form a ready-made catalogue of a general library, with room for manuscript additions.

University Lectures For Women.

The following in reference to lectures for women under the auspices of and preparatory to, Cambridge University, England we clip from the London correspondence of the Boston Daily *Advertiser*:

The lectures for women at Cambridge are found so attractive that a house has been opened there for the reception of students coming from a distance. Over this house Miss Clough, presides. Each student coming in to residence is charged £20 per term of eight weeks. A reduction of £5 a term is made in the case of those who intend to become teachers; and a fund has been formed for the purpose of giving further assistance to such persons. The ladies on the executive committee of management have all an intimate interest through relationship with professors or heads of houses. The scheme of the lectures embraces the subjects included in the Cambridge examination for women above the age of 18, and the lectures are primarily intended to meet the needs of persons preparing for this examination. They are delivered by some of the professors and college lecturers. Professor Seeley, the author of "Ecce Homo," lectures on English history; Professor Cayley, on algebra and the principles of arithmetic; Professor Babington on botany, etc. Girls under seventeen are admitted by the committee under certain circumstances. The fee for a single course of lectures is one guinea, teachers paying one-half. The lectures for the Lent term, '72, will commence in the week beginning January 29. The courses on Latin, Greek, geometry, logic, political economy and harmony will be in continuation of those delivered in the preceding term. In German and English, both elementary and advanced lectures are delivered. The public lectures of many of the university professors may also be attended by women. An exhibition of £40 per annum for two years is given by Mr. J. S. Mill, and Miss Taylor, and three exhibitions of a similar amount have been received from another donor. Four other exhibitions will be awarded for success in the examination next July, and the committees are collecting sums for the establishment of other exhibitions.

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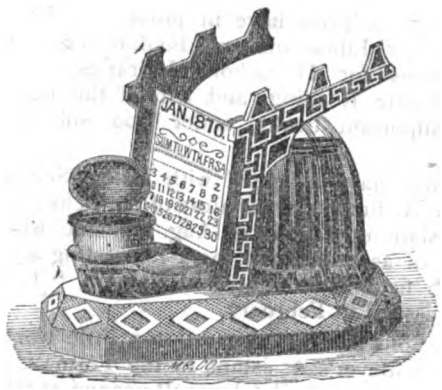

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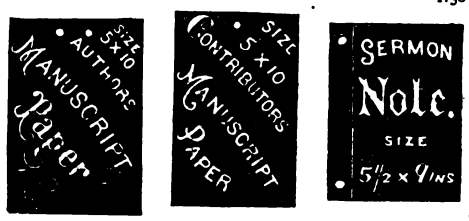

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, FEBRUARY 10, 1872. NUMBER 6.

THE TWO OLDEST COLLEGE SOCIETIES.

BY HENRY R. ELLIOT, A.B.

SECOND ARTICLE.

The Brothers in Unity Society was founded in 1768. Of its earliest years we know as little as concerning the corresponding years of Linonia. The first volume of records begins in 1783 with the following minute. "This society was founded in the year 1768 by Oliver Stanley, but by some accident the records of the first fifteen years have been lost." We are left to conjecture therefore, as to the motive and circumstances of its origin. It started with twenty members, the list including the names of Joseph Barker afterwards a member of Congress, John Wheelock one of the presidents of Dartmouth College, David Humphrey, the friend of Washington and three others who became college officers. The general design and scope of the society was identical with that of Linonia and we can easily imagine it originated in a more popular desire to engage in forensic and literary exercises than Linonia was able or chose to offer. It is quite possible that Linonia had become in her prosperity a trifle arrogant and supercilious and so provoked opposition. The author of "Four Years at Yale" attributes the rise of the society to a rebellion against a feature of Linonia which prohibited freshmen from participating in the exercises. "The popular hero of the affair" he says "was David Humphrey of 1771 'who stood up for the dignity of his class; and having found two Seniors, three Juniors, and two Sophomores, who were willing that freshmen might be admitted to a literary society, he with thirteen of his classmates fought for and established their own respectability.'" It is not true, however, to say that Brothers was started because freshmen were not admitted to Linonia in 1768, for in the records of this society, under date of Feb. 5th 1767 we find the following minute: "A unamimous vote was likewise passed abolishing and not persisting in the old and imprudent custom of not admitting freshmen. This had been long agitated but not before now was declared obsolete." And the following night "a number of freshmen were admitted and actors chosen for the aniversary." But it is very likely that some partiality in the selection or restriction upon freshmen membership gave as much dissatisfaction to the advocates of reform as the total exclusion itself had made, and caused the revolt and new association.

But whatever the occasion, the success of the movement is unquestionable. The new society was evidently in favor from the start and led Linonia numerically for the first seven consecutive years. At the beginning of the century, the catalogue of the two institutions showed a membership in the thirty three years, of 569 for Brothers and 560 for Linonia. The society profited by the model furnished in Linonia and soon overtook her in merit and prestige as well as numerical strength. A library was founded and had got well under way before the records begin, embracing 163 volumes in 1780 while the Linonia library in the preceeding year amounted to only 152. Annual and quarterly "exhibitions," were instituted. Thus under date of April 3d, 1784 we read that "According to previous appointment the Brothers in Unity attended the exhibition of their quarterly exercises at the State House. A respectable number of graduates also belonging to the society, honored the day with their attendance." On this occasion an oration was spoken and "The Modern Mistake, a Dialogue" with eleven characters, was preformed. And "the whole conduct of the quarter received the approbation and applause of the graduates." It is to be presumed therefore that the "thesis" of a few nights previous, "Dramatic exhibitions are beneficial to mankind," had been sustained at the time.

We see the two societies then in 1783 nearly identical in construction and purpose and equal in strength and zeal. Rivalry under these circumstances was of course inevitable, and we find the proselyting spirit manifesting itself at an early period. This reached such an unpleasant earnestness in 1793 that we read "A motion was made concerning the admission of new members, that no further disturbance might be occasioned between the societies and a committee of four were appointed to negotiate matters with an equal number from the Brothers in Unity." A similar resolution was passed on the same night in Brothers and "having chose a method" a fortnight after, "they adopted it and left it for the consideration of the other society." What the plan was and whether it was adopted we are not told. But the irregularity in the relative membership continued and the plan did not probably go into effect. In 1802 however an arrangement was concluded between the societies which divided the freshmen equally between them by alphabetical allotment and this system remained till 1830.

We are now at the Augustan age of the societies. They both occupied permanent quarters, the room of Brothers being in Glebe building, on the corner of Church and Chapel streets, and Linonia's Hall being opposite South College, in the building now occupied by the COLLEGE COURANT. Notices of the meetings were posted on the trees in the college yard on Tuesday, and the names of the appointed orators, essayists and disputants with the subject for debate were read and known by all. On Wednesday night the halls were always filled with an interested crowd, and the exercises sustained with the greatest animation.

"Wednesday night," an old graduate said to us "was the great night of the week. Everybody went up to his society as regularly as the evening came. The halls were crowded; jammed. Especially was this so when it was rumored that some popular speaker was to debate. Why when ——— was announced to speak the whole college would go up *en masse*, and his eloquence would be the talk of college for the week," and the old gentleman went on with pardonable pride to tell how he himself caught the inspiration of the debate one night, and delivered a maiden speech, which gave him a reputation too.

The offices of the societies were eagerly sought for and highly esteemed; to be "first president" of Brothers or Linonia was to rank in honor with the valedictorian. The extra occasions such as the quarterly exhibitions and the Reunion at Commencement, were events of the year. The exhibitions still retained their dramatic and rhetorical character, though "the cheerful glass" was banished. Both societies had stages and extensive wardrobes, that of Linonia being worth, *it is said*, $3,000, and the plays, which were mostly original, were "put upon the stage regardless of expense."

Thus the societies continued till 1830. But in that year and the next two or three, they experienced a serious change. In 1830, the plan of dividing the students between the societies by alphabetical allotment was given up and the old plan of electioneering again resorted to. In this year originates, "The Statement of Facts," a custom which, with occasional interruptions, was handed down in some shape until last year. The freshman class came, or were supposed to come, to some public hall, soon after the beginning of first term, where they were harangued by orators previously chosen in behalf of the respective societies. At the conclusion of the speeches the freshmen were called upon to choose their future society. But the temptations which such an arrangement offered to bias the choice were too strong for the average sophomore to resist. The depots, stage lines and outlying towns were beset with the zealous partizans, and the freshman rarely came up to the Statement without having previously determined his society. The custom, however, afforded too good an opportunity for the "big guns" of the societies to air their eloquence and wit, to be given up, and so was still kept up long after the societies had lost any real hold on college. For the last ten or fifteen years however, it has simply been a farce. The more monstrous the statements of the orator, the greater would be the yells of approval from his party, and what was equally flattering and desired, the howls and hisses of the rival faction. The freshmen were no doubt astounded and frightened at the intense party spirit they saw, but in twelve months time were themselves as hoarse as any. The exercises were usually introduced by a rush between the sophomores and freshmen on the general subject of obedience due the former from the latter, a subject on which the sophomore is apt to hold some very antiquated and obsolete notions.

A feature of these Statements of Facts and the preliminary campaign meetings, and one which did perhaps more than any thing else to keep them so long alive, was the admirable "Campaign Songs," which each society had and which were sung with indescribable vim during the excitement of the contest. We will quote enough to perhaps show what they were, and how they must have rung when shouted at the top of two hundred student's lungs. A famous song by Finch was to the air of the German student air Crambambuli.

"Linonia, the wreaths of glory
Sit lightly on thy peerless brow,
With graceful song and thrilling story,
Thy name and praise are woven now,
Then brothers let the loud huzza
Re-echo for Linonia!
Long live Linonia, Linonia!

* * * * * * *

Along the patient path of duty
Her voice shall cheer our weary way,
Beneath the trustful smile of beauty
Our thoughts to her shall often stray,
And ere our children lisp "mamma"
We'll make them sing Linonia!
Long live Linonia, Linonia!

Then the old war horse of the Brothers' campaigns, written by the lamented John Milton Holmes, a true poet, to the air of Lauriger Horatius, and beginning:

"Brothers all in Unity."

What tremendous power there is in the last stanza, and with what tremendous power was it always sung:

Shall we basely bow the knee
To Linonia? NEVER!

* * * * * *

Shake the old Blue Banner out
Tell the world its story,
Let our song and watchword be
Unity and glory.

Of course such a challenge would not remain unanswered, and what true grit and snap there is in the response of Linonia:

"Linonia" invincible
Can, when e're she pleases,
Pull that "old blue banner" down
And tear it all to pieces,
Pull that "old blue banner" down
And tell the world the story,
"This is all that's left behind
Of David Humphrey's glory."

These and others of similar if less power were sung at campaign and reunion meetings till very recently, and by their deserved insertion in the various Yale Song books seem likely to preserve the memory of the societies to another generation.

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About the time of the introduction of the political element, the dramatic element of the societies departed. That feature of the exhibitions became obnoxious to the faculty on account of the time which the preparation and acting of the plays demanded, and the extravagance with which they were put on the stage. They therefore forbade the wearing of female apparel by the students and took such other measures as killed the performances. This was a radical "departure" from the historic character of the societies and contributed, as we shall have occasion to remark not a little to the decline of the institutions.

This decline did not apparently commence till the present half century. A graduate of '45 will speak as enthusiastically of his open society as one of '35 or '25. But commencing with the fifties we see a steady and rapid decrease in the power of the societies. Of course the prestige of a century was not easily broken, and we see in the erection of Alumni Hall by the contributions of graduates of the two societies as a place of meeting for them, that a deal of genuine enthusiasm was left at that time. The speeches at the Linonia Centennial are full of it and it is evident that no one there contemplated the impending death of their Linonia. No allusion is seen to a decay of faith or works among the members of the society and none was probably suspected. But the Centennial came only just in time for the college. Five, or at any rate ten years later, the idea of the societies combining to build a costly free-stone building would have been laughed at, and we might still be passing annuals over the chapel.

We do not care to trace the melancholy history of the societies for the last decade. Whatever life they have shown in that period has been spasmodic and unnatural. The only occasions at which the elegant halls were generally visited was on extra occasions such as Prize Debates, Thanksgiving Jubilee and mock "Statements of Facts." Occasionally a group of ambitious spirits would enter into a compact with one another to "revive the societies" and would attend quite regularly for a time, but the college would never support them and the result was inevitably failure.

One stormy night last winter, when the traditional hibernal saltatory fever was at its height, the dimly lighted windows of Brothers suggested to an observer a new use for the deserted halls. A double set and a fiddler were quickly made up from the disciples of De Garmo in Farnam Hall, and in a short time the President *pro tem* of the society called the meeting to order and announced that, as the Secretary, record and roll-book, the four regular disputants, question, essayist, orator and quorum were unavoidably absent, the next thing in the order of exercises was miscellaneous business, and that *motions* of any kind would be in order. If there was no objection, he proposed as the first movement, the Lancers, as it was easy, chaste, and what was more he could play the tune. There was no objection, the president "strung and tuned his lyre" and promiscuous business was soon engrossing the thoughts of all. Alas! how clouds intrude upon the brightest sky—two of that merry group are already dead! "The crowd" frequented the hall with the most exemplary regularity for two or three meetings, when a town masquerade suggested that the regular exercises might be varied by a similar novelty. Battered masks, relics of freshman year and the "D. Y. W. Y. K," and decayed dressing and undressing gowns were brought again into requisition and the motley crowd was soon on its way to Alumni Hall. The idea "took" marvellously well, and before many minutes the hall was fairly jammed with masquers and lookers on. All the fiddlers in college were grouped around the president's desk sawing away as if for dear life, and the venerable floor trembled under the numberless light and fantastic toes which tripped it as they went, in the most energetic style. The orchestra, by the way, though inspired by promise of infinite beer did not surpass the expectations of its friends. To apply an old joke it knew but two tunes, one of which was the "kiss waltz" and the other was'nt, and evidently preferred the latter. But let us not be too harsh with the musicians. They generously denied themselves the dance, and we have never heard of their ever getting any beer. The faculty contrary to general expectation did not grace the occasion with their presence, but making known a settled determination to be present at the next meeting of the kind, it is needless to say the series was indefinitly postponed. This was the last fitful flicker of life, the grand transformation scene which ended the play. The wake ended, the corpse has since been left in undisturbed repose. By a recent vote of the corporation, the keys of the two halls are held by the President, who is to see that they are used for no illegitimate purpose, and it is safe to say they will no more be used for any other.

Perhaps a correct idea of what these two venerable institutions were and how they lived and died can be gained from these brief and imperfect memoirs. There is space left but to allude to a few of the illustrious names who have adorned the rolls of membership and give a hasty glance at the reasons of the societies' decay. On the list of the sons of Linonia we find the names of Pres. Timothy Dwight, Nathan Hale the patriot martyr, James Hillhouse the statesman, scholar, and poet, Roger Griswold, one of the great governors of Connecticut, Chancellor James Kent, the jurist, David Dagget, his eminent contemporary at the bar, Gen. Meigs of Ohio, Eli Whitney. the inventor of the cotton gin, Pres. Jeremiah Day, Rev. Moses Stuart of Andover, J. C. Calhoun, the repudiator, Hon. Thomas Smith Grimké of South Carolina, Gov. Roger Sherman Baldwin, Prof. Dennison Olmstead, Dr. Simeon North, a president of Hamilton College, Pres. Noah Porter, Prof. Brocklesby of Trinity, Wm. M. Evarts and Edwards Pierrepont of New York, Donald G. Mitchel, Prof. Hadley, Senator Ferry, Gov. Washburn of Massachusetts, Timothy Dwight, Prof. Gilman, Homer B. Sprague, Charlton T. Lewis of the N. Y. *Evening Post*, and Pres. Andrew D. White of Cornell—all worthy descendants of the renowned Wickham. In the Brothers' list we find Major Gen. Humphrey, Jared Mansfield of West Point, Hon. Joel Barlow, Benjamin Silliman, Jr., Lyman Beecher, Dr. Sereno Edwards Dwight, another president of Hamilton, Dr. Thomas H. Gallaudet, Dr. Eleazar T. Fitch, Hon. Wm. W. Ellsworth, Samuel F. B. Morse, the inventor of the telegraph, James Gates Percival the poet, Leonard Bacon, Pres. Woolsey, Dr. Bushnell, Bishop Clark, Profs. Loomis, Dana, and Thacher, Judge Taft. Col. Deming, Rev. John P. Gulliver, Dwight Foster, etc. These are only a few names of the noted graduates of the two institutions before the year 1854 when the last catalogues were published.

A great many reasons have been given at different times for the decline of these societies. Why they did so, it is not easy to determine. Probably it was due to no one cause but a great many in conjunction. In the first place the college had perhaps outgrown the idea. An institution admirably fitted to a college of 200, and a membership of fifty or a hundred might be unable to adapt itself to a college and membership of triple the size. Again, the interference of the faculty in prohibiting the dramatic features of the society, must have thrown a wet rag on the devotion of those bright, merry, boyish spirits who are the life if not the particular boast of any society. The Yale Jack wont be made a dull boy if he can help it, and don't mean to work without having a due modicum of play to sweeten it. Then the abolition of commons had we believe, no insignificant influence. Again, a literary as opposed to an oratorical spirit began to manifest itself, and develop with the foundation and success of the Yale *Lit.* "Beloved Maga," called the time and devotion of its editors and contributors, always an influential body, away from the halls of debate. A man could now gain as much celebrity and as great rewards by treating of "Revolutions and their Tendencies" or "The Right Theory of Government," while cooking his toes before an open grate, as he could by an eloquent defence of Mary Queen of Scots in Townsend Block. And to go a little deeper, why was the *Lit.* a success? Why has the Yale *Courant* doubled and quadrupled in so few years? Why has every first class college and almost every second class college in the country a successful periodical? There can be but one answer. The age of the Lyceum has given place to the age of the newspaper. It is a significant coincidence that the society halls of both Linonia and Brothers are occupied by printing presses. The mind of the present civilization learns through the eye, and no longer by ear. The debating societies of Yale College have only shared the fate of debating societies all over Christendom. A recent writer in Blackwood in a criticism of "Four Years at Yale," expresses wonder at the existence and vitality at Yale of so many literary secret societies, while a single debating club is kept alive at Oxford with such great difficulty. But when Macauley was at Cambridge the debating society was a place to make a reputation in. Pendennis at the time his history was written, was "still remembered at the Union Debating Club as one of the brilliant orators of his day." But while Macauley and Pendennis and a great many bright fellows were discussing things in general, other bright beings were investigating things in particular. There were Stephenson and Fulton, for instance, occupied on the subject of locomotion. There was Morse, Yale '10, spending a good deal of thought over electricity, and there was Horace Greeley sticking type in York State. And these men of one idea apiece have succeeded, as men of one idea so often do, and given us a new civilization at the expense of the old.

The introduction of the prize system which has developed within the last twenty years has undoubtedly had a telling influence, and indeed some of the best friends of the societies look upon the prize debates as their greatest foe. It is unquestionable that these debates focalized the devotion and interest of the leaders to one great occasion a year at the expense of the regular weekly meetings. The political rivalry had a similar tendency. The intemperate zeal of the campaign reacted to the hurt of the societies for the remainder of the year.

An important agent was undoubtedly the development of the secret society class system. But it is nonsense to say that these societies are wholly responsible for the decline of the large societies. If there were no such societies in college at present, Linonia and Brothers would undoubtedly be still alive, but if there is any reason in the agencies of decay already given, it must be confessed that the two would be at a very low stage at present. Secret societies have had their share of influence in causing this result, but even if we do not care to go as far as the author of "Four Years at Yale," and say the secret societies are a consequent rather than a cause of the open societies' decline, we can say with confidence that such a view is nearer right than the theory so popular among older graduates that the secret societies have "killed" the open organizations of their time.

And what in the future? Will the secret societies which seem so young and strong to-day live as long as their predecessors? We can imagine some "old graduate" coming back to Commencement in 1776, to mourn the decadence of his favorite "Crotonia;" his son saw with grief the empire of Linonia divided by a younger rival; the descendant of the third or fourth generation regrets to-day the mortality of both. Perhaps in 1976 a group of white haired graduates may lament together the absence of the old secret societies of their time, in whose recesses, far from the crowd, they spent so many happy hours.

— Not long since Mr. James Kelly offered to give ten acres of land near Wilkinsburg, Western Pennsylvania for the site of an institution for the deaf and dumb, provided $20,000 was raised for buildings. This sum has been secured, and it is proposed to begin the erection of buildings in the spring.

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THE NEW FELLOWSHIP FOR HARVARD COLLEGE.

[The following letter from Hon. George Bancroft, United States Minister at Berlin, founding a new fellowship at Harvard, is reprinted from the Boston *Advertiser* of February 2d.]

AMERICAN LEGATION, BERLIN, JULY 4, 1871.

Sir.—It has long been my wish to raise a memorial to one of your predecessors, John Thornton Kirkland, and to requite benefits received through him. During a long life, in which I have had the opportunity of seeing many men, in divers lands, famed for mind and accomplishments, I have seen few who were his equals, and no one who knew better than he how to deal with his fellowmen. His manners were marked by dignity and benignity; they invited confidence and repelled familiarity. A scholar and a man of the world, he was honored and beloved in every circle in Boston and by all classes in the college. With severe reproofs of misconduct he mingled so much humaneness and so easy and natural appeals to the better elements of character in those whom he was obliged to censure, that his reproof acted like a benediction, and they who received it left his presence abashed, penitent, grateful and attached. To those who showed aptness for literary pursuits he was an unfailing friend, treated them with paternal regard while under his care, and watching their career in life with never-ceasing interest. There was not in his nature a trace of anything that was mean or narrow. He was always and everywhere devoid of envy or discontent or repining, and was throughout large and liberal, and generous and genial in thought and life. All who knew him well regretted that he did not write more for the public, for it seemed to them no one in America of his day, understood English so well, and that no one had like him, the intitutive knowledge of human passions and character. He was suited to any high public office; was ever the honored companion of statesmen, and fit to be the peer of the best of them; but he was satisfied with bringing the university over which he presided into a condition more worthy of the arts and sciences which it undertook to teach, and of the affection and benevolence of the community with which it had grown up and prospered. He opened the ways through which it has passed onward to its present eminent condition, and his noble influence still survives to assist you, sir, in bringing time-honored Harvard still nearer to the excellence which the present age hopes for and expects.

A little more than fifty-three years ago Edward Everett, then Eliot professor of Greek literature, in one of his letters to President Kirkland developed the idea that it would be well to send some young graduate of Harvard to study for a while at a German university, with a view to his being called to a place on the college board. The president approved the suggestion, and his choice for this travelling scholarship fell upon me. Accordingly, in the early summer of 1818, being then in my eighteenth year, I proceeded to Göttingen. After remaining more than three years in Europe I returned to Cambridge, where I held the office of tutor for one year. There being no opening for a permanent connection with the university, I devoted a few years to an attempt to introduce among us some parts of the German system of education, so as to divide more exactly preliminary studies from the higher scientific branches, and thus facilitate the transition of our colleges into universities, after the plan everywhere adopted in Germany. But it is difficult to change an organization that has its roots in the habits of the country. And the experiment could not succeed, for it was impossible to introduce the German usage which permits students to pass freely from a private place of instruction to a public one, without the exaction of payments for instruction elsewhere received.

I then applied through the late Judge Charles Jackson, a member of the corporation and a friend of mine, for leave to read lectures on history in the university. At Göttingen or at Berlin I had the right, after a few preliminary formalities, to deliver such a course. It was the only time in my life that I applied for an office for myself, and this time it was not so much an office as a permission that I desired. My request was declined by my own *alma mater;* so that I had not the opportunity of manifesting my affection for her by personal services; and my life has had, in consequence, unexpected variety and independence. But wherever my lot has been thrown, I have always preserved in freshness and strength the love which I bore to Harvard College in my youth; and now, in my old age, I still gladly seek an opportunity of proving that attachment.

I wish, therefore, to found a scholarship on the idea of President Kirkland, that the incumbent should have leave to repair to a foreign country for instruction. Merit must be the condition of the election to the scholarship; no one is to be elected who has not shown uncommon ability, and uncommon disposition to learn. Of course the choice should fall on some one who needs the subsidy.

You, sir, as the successor of Dr. Kirkland, may know the funds out of which came the modest but sufficient stipend which I received; and if so, I leave it to you and the corporation to impose any limitations that you think right. Otherwise, residence at the university, but not for more than three years, may be required. But the residence should have reference to any of the schools of divinity, law, or medicine, or of mines, or of science, or of any other school that is or may be founded, not less than to the classes of the undergraduates. I think, in an exceptional case, there should be authority to name the scholar from any place, without any previous residence at Cambridge; and if you and the corporation approve, I wish it to be so established.

The scholarship should be held by no one for more than three years, and during that time should be renewed from year to year; but only on evidence that the scholar is fulfilling the purpose of the endowment. I leave to you and to the corporation to circumscribe, if, from the considerations already referred to, you think best, the objects of study to which the incumbent should devote himself. But, for my own part, I am willing the scholarship should be given to any young person likely to distinguish himself in either of the learned professions, or in any branch of science, or in architecture, sculpture, painting, music or letters.

To constitute the necessary fund I propose to devote the sum of ten thousand dollars, to be safely invested, the income to be given to the scholar. Having never accepted any inheritance, and having never engaged in any lucrative pursuit, I cannot at once pay into the treasury of the university the whole sum, of which I yet hope to make and complete the payment during my life. But as life is always uncertain, and the life of an old man so surely near its close, I wish you without delay to have drawn a paper for me to sign that shall bind myself to pay annually at least two thousand dollars a year, until the whole sum of ten thousand dollars shall be discharged; and in case of my death before the payments are completed, to bind my executors to pay the balance that may remain due, within one year after my decease. The interest that will accrue on instalments that may be paid from time to time is not to be reckoned in discharge of any part of the principal, but is to be added to the principal, and will in so far enlarge the fund. I wish the scholarship to bear the name of John Thornton Kirkland.

Pray consult the corporation; and if you will then send for my signature the paper that will bind me and my executors to what I have set forth, it will be promptly executed and returned to you.

One word more. The incumbents of the scholarship may perhaps be afterwards drawn into the corps of professors at the university; should they render no such service, and should they be prospered in life, I wish each of them so prospered to be reminded, and, excepting always those permanently connected with the university as instructors and those whose moderate wants press upon their means, I thus in advance charge them to imitate my example in rendering aid, through Harvard College, to the cause of arts and letters, of science and learning. I remain, sir, yours sincerely,

GEORGE BANCROFT.

President Eliot, President of Harvard College.

THE SYRIAN PROTESTANT COLLEGE.

[The following account of the laying of the corner stone of this new college is condensed from the correspondence of the New York *Observer*. The letter was dated Beirut, Syria, Dec. 8, 1871, and was writen by Mr. E. R. Lewis.]

Near where the Lebanon reaches the Mediterranean, are the grounds of the Syrian Protestant College. They overlook the sea and rest in the shadow of "that goodly mountain." But why we rejoice to-day, is that these grounds have been struck into and solid rock reached upon which we have placed our corner-stone. We see day by day the work advance which has been so nobly begun by our friends in America. Yesterday, the 7th of Dec., under a beautiful sky, and in a balmy air, (the thermometer about 70°) Hon. Wm. E. Dodge, of New York city laid the corner-stone of the college. That he who had assisted the college so materialy in funds, and, what is better, who had given it a son to labor with it—that he and his good wife should be present, was a source of great satisfaction to all.

At a little past three, the president of the college, Rev. Dr. Daniel Bliss, introduced the exercises by stating in a few earnest words the purposes and hopes of those who founded the college. We were called, he said, to such an exercise as that—not because we believe in a building, but because we do believe the principles which are to be taught in this college. It is intended that the doors shall be open to all—to those who believe in one God. But it is intended, also, that no one shall long remain in the institution without knowing what *we* believe. It is possible for a heathen to enter our college, it is possible that he may go out a heathen, but it will not be possible for him to remain long in ignorance of what we believe to be the laws of God in the physical, mental and moral world. Since, then, he concluded, we engage in God's work, it is fitting that we consecrate our work to God and seek his blessing upon it.

Rev. Dr. Wm. Thompson, then led in prayer. Rev. John Wortabet, M.D., next read portions of the scripture in Arabic and was followed by Rev. James Robinson, pastor of the Anglo-American Church, who read the same in English.

Hon. W. E. Dodge was then introduced and made a brief address. He said:

"We are assembled this afternoon to lay the corner-stone of the Syrian Protestant College. It may seem to some a very small matter of itself, but there are connected with its future, we doubt not, most important results." He reviewed briefly the work of American and other missionaries during the past forty years and believed that a work had been accomplished by them, which necessitated now, the establishment of an Institute presided over by men of superior education and experience, to which young men might come from all parts of Syria, and be fitted to become instructors, physicians, ministers, lawyers, etc. The College has now been, he said, in partial operation for a few years, and its success has encouraged its friends to secure a site and funds for a new and suitable building. He announced that sufficient money had been raised to justify them in commencing the building. "We are here to-day to lay the corner-stone. Here the first building will rise in commanding proportions, in accordance with the plans designed by one of the eminent architects of America, and like a city set on a hill, or as the light-house at the entrance of your harbor, will be one of the first objects which will meet the eye of the stranger

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entering your port. But, more than that, we trust it will be a center of light and influence which like streams in the desert, shall give moral life and beauty to the hills and valleys of Syria, as, from year to year, shall go forth young men graduated with honor and filled with a desire to communicate to others the knowledge they have acquired." He congratulated those interested in education in Syria upon this work which will give higher attainments to those who desire and seek them, and, at the same time, act as a stimulus to other schools, and expressed his delight in being present. " As years shall go by and those of us who have been permitted to aid in its erection, shall have passed away, this University will still go on increasing in usefulness, and thousands of youth go forth from its halls to aid in redeeming and blessing this land so full of Biblical and historical interest. Let me invoke the prayers and influence of all present in its behalf. This is not a money making enterprise. It has been conceived in the true spirit of Christian philanthropy and those engaged in it have made great sacrifices, have left home and friends to secure to this people the inestimable blessings of a thorough Christian, and classical education. Appreciate their motives and give them every encouragement. And now, in accordance with the custom in America and England, I proceed to lay the corner-stone of the Syrian Protestant College, having placed in a lead case inserted in the foundation: a copy of the charter, a catalogue of the College containing the names of the Faculty, Directors, Trustees and Students, and its rules and regulations, also copies of the local papers of the latest dates. And may the blessing of God ever rest on the building whose foundation we lay."

These remarks were first translated into Arabic by Rev. Dr. H. H. Jessup, after which the stone was lowered to its place. Dr. Van Dyck then invoked the blessing of God (in Arabic) and Prof. D. Stuart Dodge pronounced the benediction.

The exercises seemed ended, but just then a young gentleman, a graduate of the Medical Department, begged leave to say a few words from himself and associates in college, in thanks for and appreciation of what had been done for Syria by the founders of the College. Permission was granted and his remarks closed the exercises.

JOHN C. BALDWIN.

The benefactions of Mr. J. C. Baldwin to different collegiate institutions of the country and especially to Wabash College seem to render some notice of the man and his gifts fit and proper. Mr. Baldwin was a native of Vermont and a merchant of New York city. For many years he suffered from an affection of the lungs and it was supposed more than thirty years ago that he would die of consumption. But by good care his life was prolonged to nearly the time alloted to man. He resided in Orange, New Jersey, and had accumulated a large fortune. He died in April, 1871. The following account of his gifts will be perused with interest:

In 1858, at the suggestion of Prof. Hovey, of Wabash College, an appeal was made to the numerous friends of its first president, Dr. Elihu W. Baldwin, to endow a "*Baldwin Professorship*" in that college. Dr. Theron Baldwin, of the Western College Society, entered warmly into the project, and presented the object in the First Church of Orange. His appeal was heard by John C. Baldwin, then providentially present, and was answered by a donation that eventually became worth $3,250. Near the beginning of the year 1864 he sent to the college what raised his endowment gift to $10,000, and about one year afterward he added $10,000 more, saying he was aware "the Baldwin Professor could not live on the income of $10,000."

In October 1868, while in conversation with a friend upon the condition and prospects of Wabash College, that friend remarked that he had never experienced more sincere pleasure than in disbursing small sums of money to assist worthy young men in tight places while they were struggling for an education. A number of instances of such assistance in Wabash College were mentioned as having produced good results, and the subject seemed to excite considerable interest. The matter dropped, however, with the end of the conversation. But in January, 1869, Mr. Baldwin sent to the friend who was connected with Wabash College, a draft of $200, and in his letter referred to their former conversation in reference to "worthy young men in tight places" and directed the amount to be applied to the relief of any such young men who might be connected with that institution. In January, 1870, a second draft "to be applied as the first one was," was recived. In the following April, as has been mentioned, Mr. Baldwin died. In his will, which was made not long previous, he makes certain specific legacies amounting to over $300,000, and then directs that "the remainder of his estate of every kind and nature be divided into four equal parts;" one of which shall be given to Middlebury College, a second to Williams College, a third to Hamilton College, and a fourth to Wabash College. The money is to be securely invested, and its "income to be applied by the Trustees of the said colleges, or under their direction in such sum or sums, and in such manner as they in their discretion shall deem best toward the support and education in such college, of one or more indigent students, who may be members of some Christian Church, holding the doctrine of the divinity of Christ, as held by the Presbyterian Church in the United States of America, preference being given to such one or more of said class of students who shall stand highest in their grade of scholarship; and scholarship being equal, preference to be again given to such student or students who shall propose to devote their lives to the work of the gospel ministry."

The share of each college would be over thirty thousand dollars, but it was proved by the clearest evidence that Mr. Baldwin had subscribed $10,000 to Maryville College, Tenn., and designed to pay it himself, but was prevented by death. *Williams* and *Wabash* Colleges directed their interest in that ten thousand dollars, that is, twenty-five hundred each, to be paid as they believed Mr. Baldwin intended. This left the share of each college $27,960, but the Treasurer of Wabash College, by the sale of the executor's drafts on New York, realized enough to make "the Baldwin Fund" just *twenty-eight thousand dollars.*

Wabash College is beginning to apply Mr. Baldwin's gifts to the purposes designed and his memory will ever be fresh in the hearts of the students who enjoy his benefits.

YALE PERSONALS.

'34, ATWATER.—Charles Atwater, of New Haven, was nominated for Lieutenant-Governor of Connecticut by the recent Democratic State Convention, held in New Haven, Tuesday, February 6th.

'39, HUBBARD.—At the Connecticut Democratic Convention, held in New Haven, Tuesday, February 6th, Richard D. Hubbard, of Hartford, was unanimously nominated for Governor.

'38, THOMPSON.—The physicians of Rev. J. P. Thompson, D.D., now in Berlin, Germany, prescribe a year's absolute rest from all literary labor.

'40, GOODWIN.—Rev. Henry M. Goodwin has resigned his pastorate of the first Congregational church in Rockford, Ill, where he has labored for 22 years.

'47, BROWN.—At the recent Liberal Republican Convention of Missouri, Governor B. Gratz Brown made a speech fully sustaining the resolutions of the convention. The speech was loudly and enthusiastically applauded.

'50, LYMAN.—Joseph B. Lyman, Agricultural Editor of the New York *Tribune*, died at his residence in Richmond Hill, Long Island, Sunday morning, January 28th, and was buried the same day at Jamaica. Mr. Lyman was born in Massachusetts, and after graduation studied law and went to New Orleans to practice his profession. He remained here until the breaking out of the war of the rebellion, and then came North, and lived for several years in Stamford, Connecticut. While here, he and his wife, together wrote "The Philosophy of Housekeeping," and contributed articles of a social and literary character to various newspapers. These experimental essays brought him into communication with New York journalism, and led to his connection with the Metropolitan press. He acted for about two years as Agricultural Editor of *The World*; next became Managing Editor of *Hearth and Home*, from which position he came to *The Tribune*, where he filled for the last four years of his life, the chair of Agricultural Editor. In speaking of his death *The Tribune* pays the following tribute to his memory:—"We mourn in him a most amiable, able, and faithful associate, and all the friends of enlightened and progressive Agriculture will find his loss an irreparable one."

'53, SEYMOUR.—At the recent Democratic State Convention, in New Haven, Edward W. Seymour, of Litchfield, was one of the candidates for the position of Lieutenant-Governor, and only failed of the nomination by a few votes.

'58, HUBBELL.—Rev. Wm. S. Hubbell, was regularly dismissed by a council Jan. 25th, from his pastorate of the Congregational church in West Roxbury, Mass. He goes to the Franklin street church, East Somerville, Mass.,

'63, BUTLER.—John H. Butler, is an attorney at law at Charlestown, Mass., of the firm of Stearns & Butler, who have a large business.

'63, SOUTHWORTH.—G. C. S. Southworth, donor of "The Southworth Cup," of West Springfield, Mass. has recently donated $2,000 towards the exterior of an Episcopal Church, in West Springfield, Mass.

'64, BENJAMIM.—Joseph Ritner Benjamin, M.D., of N. Y. city, was married November 23d, 1871, to Miss Sabin daughter of Hon. H. L. Sabin, of Williamstown, Mass.

'64, BORDEN.—Died at New York City, Jan. 2d., 1872 Harry Evarts, youngest child of M. C. D. Borden.

'64 CLARK.—Albert B. Clark is clerk to "The Committee on Enrolled Bills" of the United States Senate.

'64 DAVIS.—George Porter Davis, who left Yale to enter the Union Army (in his Junior year,) and who has held several important official positions in Lousiana since the close of the war, is now Parish Judge at Baton Rouge La., and a member of the County Board of Education.

'64, OWEN.—Henry E. Owen, M. D., is located in the practice of medicine, at No. 38 West 56th street, New York City.

'64 PRATT.—W. H. B. Pratt, M. D., has returned from Europe, where he has been completing his studies, and is located in the practice of his profession at Brooklyn, New York.

'65, BACON.—At a meeting of the New York Rowing Club, held on Wednesday evening, January 31st., Mr. Wilbur Bacon, of the celebrated Yale crew, was unanimously elected captain.

'70, HICKS.—L. W. Hicks, who entered upon a course of theological study at Hartford soon after graduation, was unable to resume his studies last fall on account of an affection of the lungs. He is, however, improving, and thinks of going South to remain until summer.

'70, SELDEN.—E. G. Selden, of the middle class, in the Andover Theological Seminary, is temporarily supplying the Congregational pulpit in Thomaston, Conn.

'71, DARLINGTON.—Since graduation O'Hara Darlington has been sick with a fever, but is now almost entirely recovered. His Post Office address is Pittsburgh, Pennsylvania.

'71, HYDE.—E. Henry Hyde, Jr., formerly connected with the class of '71, was admitted to the bar in April last, and is now practicing law in Hartford, Conn. His office is No. 80 State street.

'71, LYMAN.—Charles Lyman is in the wholesale drug house of Lyman, Clare & Co., in Montreal. His Post Office address is Montreal, C. E., care of that firm.

'71, OBERLY.—J. C. Oberly, formerly connected with the class of '71, is manager of the Stationary Department of the firm of H. B. Claflin & Co., New York city. His Post Office address is care of the firm.

'71, STELLE.—George R. Stelle is at present salesman in the firm of Stelle, Yost & Co., Nos. 504 and 506, North Fifth Street, St. Louis, Mo.

— The traffic in medical diplomas so notorious in connection with certain so-called medical schools in Philadelphia, has attracted the attention of the legislature, and a committee has been appointed to examine into the facts. The Philadelphia University of Medicine and the Electic Medical College of Pennsylvania are mentioned in the resolution.

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SCIENTIFIC.

Printing on Glass.—Type made of an elastic material is used, and printing ink, with which is mixed fluoride of calcium. The glass thus printed on is then heated, to a suitable temperature with sulphuric acid and, having been washed with water, it exhibits in indelible engraving the figures of the type.

Rupture of Iron Wire by a Blow.—As the result of a series of investigations upon the rupture of iron wire by a blow, Mr. John Hopkinson comes to the following conclusions:

1. That if any physical cause increase the tenacity of wire, but increase the product of its elasticity and linear density in a more than duplicate ratio, it will render it more liable to break under a blow.

2. That the fracture of a wire depends on its length, its support, and the method of applying the blow.

3. That in cases such as surges on chains, &c., the effect depends more on the velocity than on the momentum or *vis viva* of the surge.

Temperature of the Sun.—We take the following from Prof. Roscoe's opening address before Section B., of the British Association. "Starting from the fact of the eruptive nature of a certain class of solar protuberances, Zöllner thinks that the extraordinary rapidity with which these red flames shoot forth proves that the hydrogen of which they are mainly composed must have burst out from under great pressure; and if so, the hydrogen must have been confined by a zone or layer of liquid from which it breaks loose. Assuming the existence of such a layer of incandescent liquid, then applying to the problem the principles and methods of the mechanical theory of gases, and placing in his formulæ the data of pressure and rate of motion as observed by Lockyer on the sun's surface, Zöllner arrives at the conclusion that the difference of pressure needed to produce an explosion capable of projecting a prominence to the height of 3.0 minutes above the sun's surface, a height not unfrequently noticed, is 4,076,000 atmospheres. This enormous pressure is attained at a depth of 139 geographical miles under the sun's surface, or at that of 1-658th part of the sun's semi-diameter. In order to produce this gigantic pressure the difference in temperature between the inclosed hydrogen and that existing in the solar atmosphere amounts to 74,910 deg. Cent. In a similar way Zöllner calculates the approximate absolute temperature of the sun's atmosphere, which he finds to be 27,700 deg. Cent.—a temperature about eight times as high as that given by Bunsen for the oxyhydrogen flame, and one at which iron must exist in a permanently gaseous form."

On the Melting and Regelation of Ice.—Professor Bottomley, of Glasgow University, describes in *Nature*, some curious experiments of his on the apparent plasticity of ice. In a recent lecture to his class, he placed a lump of ice as large as an apple on a piece of wire gauze, and on this a board, weighted with 12 pounds. Before the conclusion of the lecture, a considerable quantity of ice was found on the lower side of the gauze, firmly united to that above, though apparently forced through the meshes, in a room at 15°C. In a second experiment he placed a block of ice on two parallel boards near together, passed a loop of wire over the ice and hung weights on the ends. Various sizes of wire were tried, and in the final experiment a wire 0.1 inch in diameter was used, weighted with 56 lbs. It passed entirely through the block of ice, and fell upon the floor; but this block of ice, though the plane of passage was clearly marked, was not divided, nor could it be split in this plane with a knife and chisel.

This remarkable result he explains to be a consequence of James Thomson's theory of regelation, as follows: The stress upon the ice, due to the pressure of the wire, gives it a tendency to melt at the point in contact with this wire, and the ice, in the form of water intermixed with fragments and new crystals, moves so as to relieve itself of pressure. As soon as any portion of the mass is thus relieved, freezing takes place throughout it, because its temperature is reduced below that of the freezing point of water at ordinary pressures, by melting of contiguous parts. The obvious tendency of the ice under the pressure from above is thus by a series of meltings and refreezings to allow the passage of the wire and yet remain a solid block.

A New Form of Leyden Jar.—Professor Guthrie describes in the *London, Edinburgh, and Dublin Philosophical Magazine*, a new form of Leyden Jar. It is constructed as follows:—A strip of tinfoil four feet long and eight inches wide is placed upon a strip of vulcanized caoutchouc four feet long and one foot wide, in such a way that along both sides there is a margin of two inches of caoutchouc, at one end, (say the right) a margin of four inches of caouchouc, and at the left a margin of four inches of tinfoil. A second piece of caoutchouc exactly similar to the first is placed exactly over the first upon the foil. A second piece of tinfoil of the same width as the first, but four inches shorter, is placed on the second caoutchouc above the first foil, with its right hand end above the right end of the first foil. Its left end of course falls four inches short. A brass wire carrying a knob is laid across the end of the upper foil. The whole is rolled up from the right end and bound. What was the lower of the two foils projects between the two layers of caoutchouc, and may be prolonged around the circumference of the roll; it forms the outer coating or earth surface. What was the upper coating of foil now forms what corresponds to the inner coating of the ordinary jar, and is entirely covered, excepting where it is prolonged as the wire and knob at the centre of the roll. If the sheet caoutchouc be an eighth of an inch in thickness, a jar of very great electrical capacity is obtained in a very compact form, and one which is free from the risk of fracture, and is less impaired than the ordinary jar by atmospheric moisture. A very serviceable modification of this form has been constructed by Mr. W. Peters for Dr. Guthrie, using for the insulating material sheet ebonite. The ends of the spiral roll are capped with dry mahogany disks. The earth foil is connected with a brass girdle around the center of the cylinder, and is not visible. The electric capacity is between four and five times as great as that of a glass jar of the same volume. It has been in use for several months, and appears almost incapable of injury.

Infinite Slowness of Form-Change.—"Suppose one foot of coal represents fifty generations of coal plants; and that each generation of coal plants took ten years to come to maturity—then each foot-thickness of coal represents 500 years. The beds of coal in one field may amount to a thickness of fifty or sixty feet, and therefore the coal alone, in that field, represents 25,000 years. But the actual coal is but an insignificant portion of the total deposit, which may amount to three miles of vertical thickness. Suppose it to be 12,000 feet—which is two hundred and forty times the thickness of the actual coal—is there any reason why we should believe it may not have taken two hundred and forty times as long to form? I know of none. But, in this case, the time which the coal field represents would be 6,000,000 years. * * The coal-fllora, viewed in relation to the enormous period which has elapsed since it flourished, underwent little change while it endured, and, in its peculiar characters, differs strangely little from that which at present exists. The same species of plants are to be met with throughout the whole thickness of a coal field, and the youngest are not sensibly different from the oldest. But more than this. Notwithstanding that the carboniferous period is separated from us by more than the whole time represented by the Secondary and Tertiary formations, the great types of vegetation were as distinct then as now. The structure of the modern club-moss furnishes a complete explanation of the fossil remains of the *Lepidodendra*, and the fronds of some of the ancient ferns are hard to distinguish from existing ones. At the same time it must be remembered that there is nowhere in the world, at present, any forest which bears more than a rough analogy with a coal forest. The types may remain, but the details of their form, their relative proportions, their associates, are all altered. And the tree-fern forest of Tasmania or New Zealand gives one only a faint and remote image of the vegetation of the ancient world. Once more, an invariably recurring lesson of geological history, at whatever point its study is taken up—the lesson of the almost infinite slowness of the modification of living forms—the lines of the pedigrees of living things break off almost before they begin to converge."—*Prof. Huxley.*

The Spectrum of Encke's Comet.—Professor Young has an illustrated article on the Spectrum of Encke's Comet in the February number of the *American Journal of Science.* It was observed on the nights of December 1st, 2d, 5th and 6th. When first examined, the comet appeared as a nebulous mass about 5′ or 6′ in diameter. It was much brighter in the center, though without any stellar nucleus; very indefinite in its outline, but on the whole, rather more distinctly bounded on the side opposite to the sun, fanning out a little *toward* the sun,—a very unusual occurrence in a comet. It was barely visible to the naked eye. Its spectrum consisted of three bright bands, the central one being the brightest. These bands were sharply defined on the least refrangible side, and faded away gradually toward the violet. They showed no indication of resolution into lines. No continuous spectrum could be detected, nor did the spectrum differ in different parts of the comet, except in brightness.

The position of these bands was carefully measured, the spectroscope used having a single 60° prism, and a collimator and telescope of such power and focal length as just to divide the D lines. The sharply defined edges were found to have positions indicated by the numbers 1240, 1645 and 2265 on Kirchhoff's scale, or the numbers 5575, 5174·5 and 4702 on Angström's scale, which is expressed in wave-lengths. This comet appears therefore to have a spectrum identical with that of Winnecke's comet, observed by Mr. Huggins in 1868, which he believes is due to the presence in the comet of incandescent carbon vapor. Prof. Young notices the fact that the brightest of these bands falls in the *b* group, where under the influence of the electric spark, a strong line appears in the spectrum of common air. Moreover, the principal line of the auroral spectrum very closely coincides with the lowest of the cometary bands.

Professor Young observed on the evening of December 5th, the passage of the comet over a star of the 9th magnitude, which, for a time was so near the center that, but for its spectrum, which was continuous, it might easily have been taken for a nucleus. The star, viewed with a power of 200 did not appear dimmed in the slightest degree. The same night a tail about 25′ long was detected, reaching out N. 43° E. from the center of the comet, one edge of which was straight, the other curved.

Mr. Huggins has also recorded some observations on this comet of Encke, made by himself between the 8th and the 17th of November. He could discover no evidence of polarization in the cometary light, and hence infers that it cannot be reflected light. He observed that the longer axis of the comet was directed almost exactly toward the sun, its head and nucleus being turned from it. This appears to be true of all the smaller class of comets; they carry their tails before them, and not until their smaller fan-shaped appendages have been well warmed by the sun's rays, do they begin to shoot out large tails in the other direction.

The aspect of the comet, according to a drawing made by Mr. Carpenter of Greenwich, was that of "a somewhat shuttlecock-shaped nebulous haze, with two wings of much fainter light, extending on either side, giving a flattened appearance to the head of the comet." A drawing made by Dr. Huggins agreed quite closely with the above. He thought that he had detected a minute but distinctly marked nucleus in the head of the "shuttlecock."

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, FEB. 10, 1872.

THE project for a new University in the South West, under the charge of the Methodist Church, to which we referred a short time since, is assuming a definite form. It will be remembered that a convention was appointed to be held at Memphis, Tenn., January 24th, to see what could be done in the premises. This convention which was composed of delegates from seven different Conferences within the bounds of the States of Tennessee, Alabama, Louisiana, and Mississippi, met at the time appointed, and occupied three days in its deliberations. There seems to have been a good quantity of speech making, and the subject was evidently thoroughly agitated. The result of this deliberation and talk was a series of nine resolutions. These declare that measures should be adopted, looking to the speedy establishment of an institution of learning of the highest kind, which shall be called the Central University of the Methodist Episcopal Church, South, and shall consist at present of five departments, viz.: A Theological School; a Literary and Scientific School; a Normal School; a Law School, and a Medical School. The resolutions further declare that a million of dollars is necessary to realize fully the object desired; confer the power of location upon the Bishops of the Church, South; appoint a ponderous committee to carry out the scheme and act as a Board of Trust; give rules for the government of this committee; provide that other Conferences who join in the movement may help control the university; and request the Bishops of the Methodist Episcopal Church, South, to act as a Board of Supervisors jointly with the Board of Trust in electing officers and professors, and prescribing the course of study and plan for government. The course of the discussion and the drift of the resolutions point toward a Theological Seminary as especially important in the minds of those who are interested. There is but little to be said upon the action of the convention. If the necessary million can be raised, and the Board of Trust doesn't break to pieces from its size, and all the elements concerned are harmonious and work well together, we shall probably have another institution of learning. Another will be added to the already too large number of so-called colleges and universities. And while we rejoice in all efforts which are made to advance the cause of education and sound learning, we cannot help hoping that the college of Bishops who have the matter in charge will locate the new institution in connection with some one of the colleges of the denomination which now exist in that region. Southern University in Alabama, Emory College in Georgia, the newly founded Shaw University in Mississippi and the East Tennessee Wesleyan University, or Jonesborough College, in Tennessee would, with the aid of the million, it is proposed to raise, make a better institution than the million alone can create.

THE REMOVAL OF TRINITY COLLEGE.

Those who are conversant with the course of events in the State of Connecticut are aware that a new State House is soon to be built in the city of Hartford. But in order that a State House may be built it is necessary to have a site, and in looking around for desirable positions for the new building, the grounds now occupied by Trinity College have been regarded by some as a most desirable situation. Not a little discussion has already taken place in the local papers, in reference to this site. Arguments both pro and con have been advanced, the desirability of a change in the location of Trinity to some more favorable position in Hartford, and the advantages which would accrue, have been affirmed and denied, and even the removal of the college to New Haven has been broached. No definite action, however has been taken until last Wednesday, when a meeting of the trustees was held, at which a representative on the part of the citizens and one on the part of the common council were present. It was affirmed at this meeting that the city would give the college $500,000 for their property, this sum being considered a fair price. But in the minds of the trustees this amount seemed too meager and they expressed themselves as unwilling to part with the property on those terms. A committee was appointed, however, whose duty it should be to search for new sites for the college, obtain written statements of the cost of these, and confer with the committee on the part of the city in reference to more favorable terms. Such in brief is the history of the affair down to the present time.

Now it is not our purpose to enter into a detailed discussion of the advisability or inadvisability of removing Trinity College from its present site. But there is a phase of the matter on which we should like to say a few words. It has been proposed to move Trinity to New Haven, and this project, as it seems to us, is worthy of the earnest attention of all who are interested in the welfare of both Trinity and Yale. There can be no doubt that there are advantages connected with a situation in New Haven, whether Trinity maintains her own identity or becomes an integral part of the University here, which she can never enjoy where she is. The advantages of libraries, lectures, university degrees, etc., can be enjoyed in common by all who are near enough together to make their use feasible. On the other hand Yale would gain by the addition to her resources and the enlargement of her borders. If it should be deemed advisable that Trinity preserve her own organization and government, it would be no difficult matter to make an arrangement such that the libraries, all university lectures, indeed all post graduate instruction might be enjoyed by her students as well as by those of Yale, and still further the degrees conferred might all be bestowed by the same power, thus making them more valuable to all. If Trinity became an integral part of the University all this would be true in a still higher sense. So that in either case the project would seem to be an advantageous one.

A further consideration in this direction is that concentration of resources with proper management is always advantageous. The tendency of the past has been to found new colleges until the number has become so great that from the nature of the case they cannot present the advantages which a fewer number of larger institutions could offer. Now, we rejoice to say, although the founding of new colleges has not ceased, there is a disposition to build up one or two real universities. This is what is being attempted at Harvard and at Yale, and the advantages are already being felt. What better then, than for Trinity to become a part of a university? Individuality, it is true, is pleasant but it is costly.

And the difficulties of such a project are by no means as great as might be supposed. Already, in certain influential circles in New Haven, the idea of extending aid to Trinity, on condition of her being removed to this city has been broached. A recent editorial in the New Haven *Register*, speaking as if by authority says: "We are confident that there are several wealthy men here who would readily inaugurate the movement," and suggests that a public meeting be called to take the matter into consideration. We think it more than probable that substantial financial aid might be obtained. And in reference to the action of Yale in the matter it is, of course, impossible to make any affirmation. It is known, however, that the project is looked on with favor by some, while no opposition has been expressed. There can be little doubt but that a hearty welcome would be extended.

We hope that the committee who have the matter in charge, will not make their report until they have given New Haven a visit, and found out what can be done.

LITERARY.

Macmillan & Co. announced for immediate publication, the fourth volume of Mr. E. A. Freeman's "History of the Norman Conquest." This leaves but one more volume to complete a work which it is expected will be a standard authority upon the period of which it treats. The same firm will soon publish a new work by S. Baring Gould, entitled, "Legends of Old Testament Saints." This book will contain a number of curious legends about different Old Testament characters, some of which are regarded as genuine. Among these is a legend of Lamech and his wives, and one about the Sacrifice of Isaac. There is something about these legends which excites the curiousity at least and the appearance of the work will be looked for with great interest. A second edition of M. Hensleigh Wedgwood's Dictionary of English Etymology will soon be issued by the same firm. This edition has been thoroughly revised and much enlarged by the author, who has been assisted in its preparation by the Rev. J. C. Atkinson, author of the "Glossary of the Cleveland Dialect." The whole work will form a handsome Imperial Octavo of 800 pages, double column. . . . . Messrs. J. B. Lippincott & Co. announce as in press: Memoirs of John Quincy Adams, edited by Charles Francis Adams; Scrambles among the Alps in the Years 1860-69, illustrated, by Edward Whymper; Old Merry's Travels on the Continent; Your Life and Mine, by a City Man; The Science of Wealth, by Amasa Walker; Philadelphia and its Environs; Elenore, after the German of E. von Rothenfels; Beck's Medical Jurisprudences; Half-Hours in the Temple of the Church, by J. C. Vaughan, D.D.; Black Robes, by Robert P. Nevin; It is the Fashion, from the German of Adelheid von Auer, and a work on Ovarian Tumors by Washinton L. Attlee, M.D. . . . . During the year 1872, "Rankings Half-Yearly, Abstract of the Medical Sciences," is to be published in conjunction with the "American Journal of the Medical Sciences," by Henry C. Lea, Philadelphia. These two publications with the "Medical News and Library" will be furnished for six dollars per annum, in advance, the latter two for five, or "Ranking's Abstract" alone for two dollars and a half.

The second number of *La America Illustrada* contains, among others, a fine page picture of Longfellow, and one of Pio Nono, and a fine picture of forest scenery, on the Isthmus of Panama. The same firm publish *O Novo Mundo*, an illustrated monthly periodical in the Portugese language, which for beauty of typography and general appearance is rarely surpassed.

The first number of the *Volante*, the successor of the *College Times*, published at the University of Chicago, has been received. The *Volante* claims to be more immediately the organ of the students than its predecessor. It is edited by three members of the Senior class, and published by three students chosen from among the whole body of students. The first number is finely published on tinted paper, and presents a good variety of matter. Its columns are open for communications from students, faculty, and alumni.

The Yale Naught-ical Almanac for 1872, to which reference has been made heretofore, was published last Friday. It is announced as being "A Modestly-Economical Rejuvenescence of some very Ancient Chronicles Unblushingly Appropriated," and contains besides the calendars and a complete register of the notable days at Yale, fun, wit, and caricature. Of full page caricatures, there is one which represents a well-known

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professor among the stars; another which puts another professor among the signs of the Zodiac; another, which gives in illustrated detail the tale of George Washington who would not tell a lie; another, which describes the foundation of the college library which is decidedly good; still another, "The Three Fates," which all who know anything of Yale will fully appreciate; and perhaps best of all, a graphic illustration of the feud between the police and students. There is also a running illustration of student life over the tops of the pages. The reading matter contains much rare information, together with fun and attempts at fun. The work has been prepared somewhat hastily but taken as a whole it is creditable to all concerned. The caricatures are not malicious and he must be a cynic who does not enjoy and manifest his enjoyment in laughter, the merriment contained in this almanac.

The Hoosier Schoolmaster.*—This novel, which first appeared as a serial in *Hearth and Home*, is a story descriptive of Western border life, the scene being laid in Hoopole County, Indiana. It is not so much an effort on the part of the author to write a regular orthodox novel, as to represent the manners and customs prevailing in certain of the uncultivated backwoods settlements of the west, a little love and religion being thrown in, apparently to render the work attractive to both the serious and the gay. In spite of the love story which is rather of the raggedest, the work as a whole is exceedingly entertaining, and is especially rich in Western peculiarities of dialect. We think it a decided mistake in the author not to have carried out his original intention of "appending some remarks, philological and otherwise, upon the dialect," and if Professor Lowell's most entertaining and instructive but by no means exhaustive essay upon Americanisms in his preface to the Biglow Papers is going to deter all the writers from contributing what they know, even though it be little, to that subject, it would have been far better in our opinion had the preface never been written at all, sorry as we should be to lose it. The work is adorned with twenty nine illustrations, some of them very good; but we are bound to add that if the picture of Hannah opposite page 56 is a fair representation of the heroine, we can fully sympathize with Bud's remark to the schoolmaster, found in a subsequent page, "she's a mighty nice gal, but you're welcome to her." The book will be found pleasant reading by everybody, and to those who are at all interested in the subject of Americanisms it will convey not only amusement but information.

* *The Hoosier Schoolmaster.* A Novel, By Edward Eggleston. Orange Judd and Company.

TAINE'S ENGLISH LITERATURE.*

It is creditable to the taste of the times that a second edition of this excellent work has been so soon called for. We have so recently noticed the second volume on the appearance of the first edition that we shall now confine our remarks to the first volume.

In the author's introduction to this translation, he indicates the plan of his work. Assuming that every nation or people has a proper life and history, he regards its collective literature as a collection of portraits taken from time to time in its progress that show the character and the spirit of the people—its variations of thought, sentiment, and expression. From these literary portraits of English life, he has selected the most lifelike and the most faithful, and in this history presents them arranged suitably for his purpose and with such comments as they might suggest.

In his introduction to the work itself, he more fully develops his plan. In a history the first step is to reproduce the nation as it was at its several epochs—to represent it before the outward eye as nearly as may be. The next step is to interpret out the life, the soul, the spirit, that has embodied itself in these outward forms; to regard as symbols of this inner being, the chosen end in literature, the sentence, construction, the imagery, the rhythm or verse, the unfolding of the argument. But this inner life of a people is the resultant of manifold forces. It grows out of a system of ideas and sentiments common to the nation, in which are to be found the mainsprings of its activity. These work out the character and determine its outlines and features, its face and complexion, more or less impeded, it may be, more or less warped and turned aside from their normal direction. Three elements contribute to this resultant, —*race*, *surroundings*, and *epoch*.

There is much in race. The Aryan can be recognized by characteristics that never became effaced in whatever condition barbarous or civilized, in whatever climate, at whatever period he may chance to live.

But his surroundings act upon this native genius; climate and country have differenced the German from the Greek. Social conditions, too, affect and modify the development.

Still again, much depends on the epoch, the stage of growth; at different periods, different ideas are dominant. The working of these three causes may be antagonistic to one another, and result in impotency, or concordant, and then come the great triumphs of the national mind. These then, race, circumstances, epoch —the inward mainsprings, the external pressure, and the acquired momentum—exhaust the whole of the causes of a growing civilization.

But civilization is an organic whole, each part of which shapes and is shaped by every other, and as from a few fragments the naturalist is enabled to reconstruct the entire animal organism, so from a part of a civilization, as its philosophy, its art, its religion, its polity and family condition, its industries, may the historian reconstruct the entire national organization. Such is the design of the present work, to present the literature, and seek in it the psychology of the English people.

The physical surrounding of the early English people were any thing but auspicious to the unfolding of a great literature. Their land was a land of marsh and fogs, with great muddy streams rolling down their sluices into the sea. Four rivers in England pass by the name of Ouse;—it is a land of ooze. Ill-housed in his mud-hovel, hearing the rain rustling whole days in the oak leaves, what dreams of inspiration can he have as he sits gazing on his mud-pools and his sombre sky? What kind of men can such a soil produce? What but men of coarse appetites, beastly, cruel instincts? Their history is like a history of kites and crows. Under this barbarism were yet some noble dispositions; a certain earnestness, an independence and freedom of soul, aversion to voluptuousness, love of adventure and strong excitement. Their society is founded on generous sentiments; they are bold but faithful; their friendship is warm, and their loyalty unswerving. Marriage is the union of free persons, for woman with them is not a thing; vassalage is full of devotion; and alliances are sacred. The Saxon poetry, of which one poem, *Beowulf*, is preserved almost entire, breathes forth the strength and seriousness of the people. It is impassioned, condensed, harsh in its violent energy, full of imagery. The race by its gloom, aversion to sensuality, inclination to the serious and sublime, is predisposed to Christianity. All that foreign culture can do for it, is to offer it this, which it unhesitatingly accepts. Christianity works no change in the native genius. The Gallicised Northerner overpowers the native and imports a new language, new manners, new learning, new poesy; the race remains Saxon. The old Saxon genius lives on and reappears after five centuries of depression.

This French race, that in 1066 with its sixty thousand warriors conquers the Saxon people now increased to two millions of souls, is the least poetical in Europe. They write much and long. They think clearly, part by part, methodically. They teach how ideas fall into order, and what ideas are agreeable. Under the Normans, the French becomes the language of the English court; the language of literature, of learning, of philosophy. But the speech of common life is Saxon. Two centuries bring the two strange elements,—the French and the Saxons, together. Burgesses are side by side in Parliament with nobles, and Saxon words in speech with French. So by compromise was modern English formed.

The old Saxon race has the living elements of a free people in them. They rise and grow strong under their oppressions. Their native roughness and energy work out their independence. They acquire titles to land; they are industrious; they are thrifty; they live in comfort and in comparative security. They speak out their rights. The idea of duty rises and dominates. The word of God is the high word of authority. The Bible is rendered by Wiclif into the vernacular. It is read; it is obeyed, although the penalty be the stake. Freedom of thought emerges, a new literature dawns.

Chaucer was versed in all scholastic lore, and yet a man of action. He was in the army, in the King's council, ambassador at divers European courts; a familiar with courtiers as with scholars and poets; actor and spectator of the finest and most tragical of dramas. He was withal a minstrel whose function was to provide fine tales. He seeks them in Italy, in France, in popular legends, in the classics, everywhere. He first translates the *Roman de la Rose*, than which there is no pleasanter entertainment for lords at table when dinner is over. Chivalrous love is the master sentiment. In his Canterbury Tales, the Gallic characteristics appear—gossipy, natural, diverting. But romantic and gay after the manner of his school, he goes beyond his times and reveals character. His personages are carefully studied, carefully rendered. They stand out distinct, individualized characters. He advances, however, but half a step. His imagination is free, his reasoning is a slave; as soon as he reflects, he is in bondage to the scholastic, philosophy and his invention disappears.

The succeeding century witnesses what M. Taine calls the Pagan renaissance. European society has greatly changed for the better. In England peace encourages industry and trade; wealth increases; the arts are nourished; manners become free, if not loose; holidays, pageants, theaters are in vogue; classic learning revives; pagan ideas and practices flourish. The Renaissance in England is thoroughly Saxon.

The new style in literature is introduced by the Earl of Surrey. He is an English Petrarch, and of his poetry M. Taine gives a masterly description.

Towards the end of the century, Lyly's Euphues appears. It is the true offspring of the times. Every body speaks euphuestically. "That beautie in court," says Edward Blount, "who could not parley Euphuesme was as little regarded as shee which now there speekes not French." Men cared not for clearness, order, common sense; it was a festival and a folly; absurdity pleased them. The two features of the literature of this age were luxuriance and irregularity. Sir Philip Sidney illustrates the reigning manners and tastes. His *Arcadia* is a sort of poetical romance, a pastoral epic, written for the amusement of his sister. It is crowded with tragic incidents; yet the fantastic predominates. In his *Defence of Poesie* is found a genuine imagination, a sincere and earnest tone, a commanding style, real passion. Sidney is but one of many. In fifty-two years two hundred and thirty-three authors are enumerated, of whom forty have genius or talent. A new creative epoch has arrived. But among all the poems of this age there is one truly divine; so divine that the reasoners of succeeding ages have found it wearisome, that even now but few understand it. It is Spenser's *Faerie Queene*. Spenser has a soul captivated by sublime and chaste beauty; not mere harmony of color and form, but an emanation of unique, heavenly, unperishable beauty, that does not live in bodies, but in the deathless idea which shines through all things. He is a true poet—a creator and a dreamer,

* *History of English Literature.* By H. A. Taine. Translated by H. Van Laun, one of the masters of the Edinburgh Academy. With a preface prepared expressly for this translation by the Author. Vol. I. New York: Holt and Williams, 1871. pp. 531, x.

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He is an epic; no modern is more like Homer, always simple and clear, redundant, ingenuous, even childish. His work expresses the beauty in the poet's heart —a noble yet a laughing beauty, made up of moral elevation and sensuous seductions; English in sentiment, Italian in externals; chivalric in subject; modern in its perfection; representing a unique and admirable epoch, the appearance of Paganism in a Christian race, and worship of form by an imagination of the truth.

In the prose of the early part of the seventeenth century, M. Taine finds abundance of thoughts, few notable books. Three writers, Burton, Sir Thomas Browne, and Lord Bacon are singled out for special review. He affirms that there is nothing in English prose superior to Bacon's diction.

The English theater is the original product of the English Renaissance. The drama flourishes all of a sudden and for sixty years together, with marvellous luxuriance; at the end of this term it is arrested so that no effort can revive it. M. Taine traces in considerable detail the causes of this phenomenon in the condition and manners and tastes of the people. Marlowe, the true founder of the dramatic school, was dissolute, outrageously vehement and audacious; an infidel and bold blasphemer, but grand and sombre with the genuine poetic frenzy. His poetry is exagerated declamation, heaps of murder, atrocities, a pompous and furious display of tragedy soaked in blood, and passions raised to a pitch of madness. It is the first outburst of youth. Towards the close of the century—the sixteenth—art is complete. It is an art which confounds all ordinary rules, but it is natural. There is no unity. It leaps over twenty years or five hundred leagues. There are twenty scenes in a simple act. It plunges from tragedy into buffoonery. No idea of progressive and unique action. It gives the complicated individual, not the genuine character.

Of the many dramatists of the sixteenth century, two stand out as leaders, Ben Jonson and Shakespeare. Through nearly a hundred pages of this volume, M. Taine pursues his interpretations of these great writings. The one is learned, scholarly, observing all proprieties, moving by regular advances, but no creator of souls; never little or commonplace, a steadfast teacher of morality, aiming to correct folly and vice; a true poet, the brother of Shakespeare. The other, the worlds great dramatist, is worthily characterized. His life, his powers, his plays, his style, the manners he paints, the characters he presents, his sympathetic imagination,—these are all sketched in bold, clear, strong lines. The critic and historian penetrates the soul of the poet and from what he finds in it interprets the character of his works. Ready, impetuous, impassioned, delicate, Shakespeare's genius is pure imagination touched more vividly and by slighter things than ours. Hence his style blooming with exuberant images; hence his implied psychology and his terrible penetration instantaneously perceiving all the effects of a situation, and all the details of a character, concentrates them in every response, and gives his figure a relief and a coloring which create illusion; hence our emotion and tenderness.

The Christian Renaissance is strongly discriminated by M. Taine from the Pagan Renaissance. His error here leads him into gross anachronisms and preposterous explanations. All high culture, all high art is from pagan source. The Reformation is presented as finding the science, the poetry, the large ideas of the pagan Renaissance already in bloom. So far as it takes place in the Anglican church it only cannot become hostile to art and learning. It even tolerates artistic tastes, philosophical curiosity, the sentiment of the beautiful. Consequently a Jeremy Taylor becomes a possibillity. Taylor is a writer of genius, a prose poet gifted with imagination like Spenser and Shakespeare, and still a man of true religious sentiment? How can this strange union be accounted for? M. Taine says a frank and worldly gait has generated the religious sentiment. A free poetry leads to profound faith. Primitive religion consists of emotions, it is a poem; and the way of looking at the world adopted by Shakespeare and all the tragic poets led on to it. The troubled notion of the shadowy beyond is national, and this is why the national renaissance at this time becomes Christian. Piety proceeds from eloquence and genius leads to faith. This is in perfect accordance with the preposterous theory of the rise of religion which he gives us in the introduction. "Whatever" he says, "develops credulity side by side with poetical thoughts, engenders religion." And here we may as well notice that his theory of art is just as radically absurd. "What" he asks, "what is there at the bottom of a religion or of an art but a conception of nature and its primordial causes under [the] form of symbols more or less concise, and personages more or less marked; with this difference, that in the first we believe that they exist, in the second we believe that they do not exist?" Credulity engenders religion; incredulity is the mother of art! The truer the art, in its ideas, in its meanings, the greater the failure; the further from truth, the greater its perfection! M. Taine has certainly great artistic discernment; but as certainly he lacks philosophical discrimination or he would never have imagined that because poetry, as all art, lies in the form, not in the essence or reality of things, therefore its perfect forms can belong to no realities. Artistic form stands in no such relation of destructive opposition to truth and reality.

The Puritan reformation follows and perfects what that of Henry VIII. had left incomplete. Here M. Taine discovers no culture, no philosophy, no sentiment of harmonious and pagan beauty. The extravagances of the times are shown in citations of recorded particulars, as if the spray were the very body of the heaving wave. Yet Bunyan appears a true child of this reformation. And Bunyan "has the freedom, the tone, the ease, and the clearness of Homer." No one but Spenser is so lucid. Imaginary objects rise of themselves within him. He has no trouble in calling them up or forming them.

Then there comes Milton. Here is vast knowledge, close logic, and grand passion; mind lucid, imagination limited, impassioned, devoted, religious, heroic. Of the two powers which lead mankind—impulse and idea—while the former influences poetical souls like Shakespeare, the latter governs heroic souls like Milton. As well by circumstances as by nature Milton is made for strife. He hated heartily. In his prose he is powerful but heavy. His page-long phrases come as from a catapult. Michael Angelo's prophets would speak in his style; and the powerful logic, which lengthens the periods, sustains the images. His metaphors are spread folds of a scarlet cloak, bathed in light and fringed with gold. Like Shakespeare, he imagines at every turn and even out of turn and scandalizes French taste. The fury of his invectives mount to the sublime; and then, passing from the visions of darkness to the prospects of heaven, his periods are triumphant choruses of angelic alleluias sung by deep voices to the accompaniment of ten thousand harps of gold. "If you search all literature, you will hardly find poets equal to this writer of prose."

As a poet, Milton inclined when young to the magnificent and grand. He wanted a great rolling verse; he was a musician; his hymns rolled with the slowness of a measured song and the gravity of a declamation. He delights in admiring, as Shakespeare in creating, as Swift in destroying, as Byron in combating, as Spenser in dreaming. His *Comus* is perhaps his master-piece—simply the eulogy of virtue, well worked out with a complete originality and extraordinary elevation of style. His *Samson* is a cold and lofty tragedy; his *Paradise Regained*, a cold and noble epic; his *Paradise Lost*, an imperfect but sublime poem.

After the Renaissance, Pagan and Christian, comes the Era of the Restoration. With it first appear the *Roysterers* as M. Taine styles them. Puritanic severities react in courtly immoralities; and the literature partakes of the spirit and character of the age. The Hudibras of Butler, mean in its wit, awkward and dull in its satire, is as malignant as foul. As from disgust with puritanic sobriety, courtiers refined manners into gross licentiousness, Hobbes in like disgust with puritanic spirituality philosophized man into an animal.

The theater follows the libertinism that is the fashion, but with some reserve, in Dryden who is at bottom grave and a poet. In Wycherly, a fashionable courtier, it is unrestrainedly coarse, vulgar and spiteful, vigor with unimaginative realism—a realism of the physical sense. The *Roysterers* are succeeded by the *Worldlings*. The Renaissance is now ended; the classic age begins. The festivities of the court bring in new manners; the art of conversation becomes a necessity. Everything improper is studiously shunned. Sir William Temple writes with most gentlemanly polish and refinement, and covers trivialities and stupidities with fine rhetoric. France furnishes models for taste, art, style. Congreve, Vaubrugh, and Farquhar with Wycherly established the French style of comedy. They fall, in M. Taine's judgment, immeasurably below Moliere who has ideas; who expands and develops; who brings out a universal truth by particular examples; who teaches without pedantry; who instructs while he amuses. The English comedy lacks art and philosophy; slips over the surface of things; while yet it is animated and lively, courtly in style, brilliant, easy, exact. The *Beggar's Opera* of Gay and Goldsmith's *She Stoops to Conquer* are the rare exceptions to the many failures, till the plays of Sheridan cast upon English comedy the radiance of a last success.

As a whole M. Taine's history is an invaluable contribution to the study of English literature. The original is admirably rendered. M. Taine in his introduction to this translation vouches for its fidelity, and it is thoroughly English. The style is clear, vigorous, piquant. The method, seeking first the roots of our literature in the times, the character, spirit, manners of the people, is at heaven-wide remove from the current biographical works on English literature of indigenous origin. Like them, however, it deals only with the literature in its common sense; the study of the language in its origin and growth, so necessary to a right appreciation and enjoyment of the literature itself, finds no place in the history. The criticisms of details are for the most part just and sound. They are sharp, particularizing, sketchy rather than philosophically comprehensive. Specific features serve too often as grounds for general estimate. His representations of life and manners at the successive stages of English history lack in the same way in philosophic breadth and profoundness. Accuracy in particulars does not always insure truth in the general, as a surveyor's note-book does not give a correct idea of the face of the country. Partial theory, moreover, sometimes leads to error. It is yet a fascinating and instructive book, to be commended to every student of our literature.

ALUMNI REUNIONS.

YALE ALUMNI IN BOSTON.

The following list of those of the alumni of Yale who were present at the reunion and dinner in Boston last week, did not arrive in season to appear with the account of the meeting. It is accordingly given in this issue,

INVITED GUESTS. President Noah Porter, Professors Thomas A. Thacher, and Chester S. Lyman, His Excellency W. B. Washburn, Luther M. Jones, delegate from New York, and W. H. Bradley, H. W. B. Howard, George Richards, G. A. Slade, and John T. Stewart of the class of '72.

MEMBERS.—S. D. Nickerson, G. W. Blagden, D. Foster, E. Maltby, A. P. Rockwell, J. C. Odiorne, A. J. Sessions, E. P. Barrows. D. Buck, A. H. Waters, J. C. W. Moore, H. A Scudder, H. B. Alden, A. C. Walworth,

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C. Reed, W. H. Whitin, J. Wales, E. Blakeslee, W. H. Drury, W. Allen, M. S. Phelps, F. W. Kittredge, A. E. Dunning, L. T. Chamberlin, G. R. Marble, C. C. Esty, A. L. Clarke, E. Buck, D. Butler, J. G. Vose, E. Wright, C. H. Williams, I. N. Tarbox, I. Pettee B. Augier, G. White, W. Bushnell, C. G. Came, H. M. Parsons, J. B. Miles, R. Terry, R. Sheldon, S. H. Dana, G. L. Huntress, J. Coit, L. M. Child, T. G. Kent, H. Baldwin, J. L. Jenkins, T. T. Munger, A. S. A. French, W. H. Anderson, J. E. Estabrook, J. B. Harris, W. Thompson.

YALE ALUMNI IN PHILADELPHIA.

The fifth annual banquet of the Philadelphia Yale Alumni Association was preceded by a reception in the afternoon, given to President Porter by his former classmate Rev. Dr. E. D. Saunders. The reception was primarily designed to bring together President Porter, Rev. Dr. Saunders, and Rev. Dr. L. L. Langstroth, classmates and former members of the family of Prof. Olmstead. But to add to the pleasure of the occasion a large number of clergymen and other gentlemen were invited to be present. Among these were noticed: Rev. Bishop Simpson, William G. Moorhead, Rev. Dr. Blackwood, Rev. William O. Johnstone, ex-Mayor Fox, Col. John W. Forney, Rev. Alexander Heberton, Rev. A. Culver, Rev. Alfred Nevin, Charles Browne, Rev. Mr. Kennedy, Rev. Dr. Allen, Rev. Dr. Shepherd, Rev. Dr. Yarnall, Rev. Dr. Dales, Rev. Dr. Sutton, Rev. A. Manship, Rev. Dr. Chaplain, Rev. Dr. Atwater, Professor of Princeton College, Rev. Mr. T. A. Fernley, Rev. Dr. Malin, Rev. Dr. Wylie, Rev. Dr. Parsons, Rev. Dr. Humphrey, Rev. G. D. Boardman, Rev. B. S. Agnew, Rev. Francis Church, Rev. Dr. Castle, Rev. J. Addison Henry, Rev. Dr. Shinn, Rev. Dr. Spear, Rev. Dr. Griffiths, Rev. Dr. Hutter, Rev. Mr. Bott, Rev. Dr. March, Henry M. Dechert, Esq., Henry C. Townsend, Rev. David Spencer, Rev. E. H. Nevin, Rev. Dr. Claxton, Rev. J. H. Dulles, Rev. Dr. Work.

The programme of the reception embraced among other things, an entertainment provided by the host, and a reception speech by ex-Mayor Fox. But the arrangements were sadly interfered with by several untoward accidents. Rev. Dr. Langstroth, while in Washington on his way to Philadelphia to attend this reunion met with an accident in the crushing of his foot by a car, which prevented his being present. Also the train on which President Porter took passage was over an hour behind time, making him late to the reunion and causing such a delay in the exercises, that some of the guests among whom were ex-Mayor Fox and Col. Forney, were obliged to go away before he arrived. But notwithstanding these misfortunes, at four o'clock, an hour later than intended, the guests who were present sat down to the entertainment prepared, after which they proceeded to the hall of the Cortland Saunders Institute. At about half past four President Porter arrived and was introduced to the gentlemen assembled. Rev. Mr. Saunders made a short speech in which he regretted with some disappointment in his tone, the accidents and delays which had happened, and finished by calling on Rev. Dr. March to welcome President Porter. This was done in a few fitting words.

President Porter in reply thanked the gentlemen present for their attendance and in behalf of the institution which he represented. In reference to the college he said, that during the present century it had been led, by the help of God, to occupy a prominent place. Its officers, wherever they go, find friends. They find that not only the graduates of Yale are their friends, but also that they have made friends for them. The graduates have come from all parts of the country and gone to all parts of the country, and a good report is always heard from them. The college has earned a national reputation. It sent into the field a greater number to dare and die than any other college in the country. The officers believe in a general education, and are not indifferent to progress and to the new movement that agitates this generation. The scientific school is very successful, and is in the full tide of prosperity. It is the intention and hope that the college will grow into a university, but it is not the object to spoil a good college by changing it into a university. He remembered that Philadelphia was the first city in this country that was successful in organizing scientific academies and libraries. At one time Philadelphia was foremost and led the way in literary avocations.

He concluded his address by a handsome allusion to the University of Pennsylvania, whose purpose, he said, was like that of Yale, the enlargement and enlightenment of the minds of the young men of the country, as well as for the elevation and purifying of their souls.

Rev. Dr. L. H. Atwater of Princeton College, also a classmate of President Porter made a brief address, and short speeches were also made by Rev. Alfred H. Nevin, Rev. Dr. Boardman, Rev. Edwin H. Nevins, Rev. Dr. Allen, Rev. Dr. Claxton, Professor Hastings and Bishop Simpson.. The ceremonies concluded by Dr. Saunders thanking the gentlemen present for their courtesy and attention in responding to the invitation.

THE ALUMNI BANQUET.

The fifth annual reunion of the Yale Alumni resident in Philadelphia and vicinity was held at Petry's *salon* on Walnut street Thursday evening, February 1st. Judge W. Strong, the president of the Association was prevented from being present by press of business at Washington. In his absence the chair was taken by Henry M. Dechert, Esq. After the repast had been disposed of and "Gaudeamus" sung, the following regular toasts were given and responded to by the gentlemen named:

Alma Mater—"Heir of all the ages, in the foremost files of time." Rev. R. B. Claxton, D.D.

Our Worthy President—"The preserver of the old learning, and patron of the new; he shall teach our youth to guard the wisdom of the past, and to garner the discoveries of the future." Rev. Noah Porter, D.D., LL.D.

The Faculty—"Inflamed with the study of learning and the admiration of virtue." Rev. Wm. E. Moore, of West Chester.

Our Annual Banquet—"May each year add a wider ring and closer grain to our old tree." S. C. Perkins, Esq.

Representatives of our Sister Associations—"Ecce demum firma amicitiæ est." Prof. Atwater, of Princeton College.

Educated Statesmanship—"The defense of nations, the nurse of manly sentiments and heroic enterprise." T. B. Dwight, Esq.

The Belles of Yale—"Ladies whose bright eyes rain influence." F. R. Schell Esq.

The Scientific Explorers of Yale—Harry D. Ziegler Esq.

Young Yale—"Let Knowledge grow from more to more." Anthony Higgins, Esq., of Wilmington, Delaware.

Volunteer toasts were then given and responded to by Rev. Dr. March, E. G. Scott, Hon. David B. Green, and others.

The exercises were interspersed by singing, and a most enjoyable time was experienced by all. The company did not separate until a late hour.

The following guests and members of the Association were present. President Noah Porter, Henry M. Dechert, Rev. E.D. Saunders, D.D., R. B. Claxton, D.D., Professor Lyman H. Atwater, Daniel March, D.D. William E. Moore, Thomas C. Yarnall, D.D., Dr. E. B. Shapleigh, John L. Hamelin, James M. Robb, Samuel C. Perkins, Henry E. Dwight, D. B. Green, J. A. Spencer, R. W. Kempshall, John B. Uhle, T. A. Porter, F. Farnsworth, J. H. Hoffecker, Jr., William Morris, Philip Lindsley, George Walker Jenkins, N. E. Wordin, C. S. Belford, Frank R. Schell, W. W. Audenreid, John Eliason, Thomas W. Pierce, George Eastburn, Bartin D. Evans, Robert H. Allison, Walter B. Smith, Henry Rogers, George Delp, S. S. Hollingsworth, Anthony Higgins, Henry Armitt Brown, George C. Purvis, R. M. McClellan, Starr H. Nichols, George G. Lobdell, Jr., Horace F. Whitman, Harry D. Ziegler, Frank M. Guthrie, John F. Quigley, Joseph F. Page, Jr., Robert N. Willson, T. Bradford Dwight, S. Davis Page, Montelius Abbott. E. Greenough Scott, Edward L. Duer, M.D., H. O. Townsend.

COLLEGE RECORD.

Queen's College, (Kingston Ontario.)—This institution claims to be the oldest college in Canada, and entitled for more reasons than one to the grateful remembrance of the past and the generous support of the present. It has a staff of five Professors in the Arts, and two in Theology. The students in Arts last year numbered twenty five and four in Theology; there is an increase this year in both faculties. The Medicals last year numbered thirty eight. Previous to this year all the faculties met in the same building; this year a seperation has taken place, the Medicals having now a separate building, which is found to be a decided improvement upon the old arrangement. The students contemplate issuing a magazine soon.

Monongahela College, (Jefferson Penn.)—This institution had its origin in the appointment in 1866, by the Ten Mile and Monongahela Baptist Associations of a committee to confer upon the educational work of South Western, Pennsylvania. After due consideration, a meeting of the committee was held in 1867, and it was resolved to build a college within the bounds of the two associations and a subsequent meeting resolved that it should be located at Jefferson, Greene County. Accordingly fourteen acres of land adjacent to that town were purchased and a college edifice has been erected thereon which is nearly completed. It is claimed that when finished the building and grounds will be worth at least twenty five thousand dollars. In 1871, the college was incorporated by the legislature, and the trustees have since organized and elected Rev. Joseph Smith, President with a full faculty, all graduates of the university at Lewisburg. A house has been built for the president out of the endowment fund. Efforts are being made to enlarge the endowment and it is expected that within the next year forty or fifty thousand dollars will be raised The college opened in the new building after the last Christmas vacation, the school having heretofore since the first Monday of May, 1869, been conducted in rented rooms. It is claimed that the college building is located upon one of the most beautiful sites in the state. It is well arranged and constructed according to the modern style.

Syracuse University, (Syracuse N. Y.)—*Editor College Courant;*— I have just returned from a visit to the Syracuse University where I learned some facts and some fancies which may prove interesting to you. There are about sixty students connected with the institution, but a large number of these are absent this Winter, teaching or otherwise employed. The present senior class hopes to graduate sixteen strong. Vice-President Steele will resign his position at the close of the present collegiate year, and return to his old field of labor in the New England Conference. In his place a Chancellor of the university will probably be elected. The name of Dr. F. H. Newhall, recently professor in the Wesleyan University, is mentioned in this connection. I think it very doubtful whether he would accept such a position. It is only a few years since he declined the presideney of the Northwestern University at Evanston, Ill. One of the Methodist churches in Syracuse would like to secure Prof. Coddington as their pastor, but there is not much, if any, probability of his leaving his present post. It is said that the Rev. Mr. Upson formerly Professor of Elocution at Hamilton College will be invited to the same department at Syracuse.

The new Hall of Languages is progressing finely. It is being built of Onondaga limestone handsomely finished. The walls are already up to the capstone of the windows in the first story above the basement. Work has been suspended until milder weather. The contract requires its completion by the 1st of May 1873, but the contractor says, that it will probably be ready for occupancy by the beginning of the next school year. The grounds are ample, containing about 50 acres. The site is admirably selected commanding a magnificent view of the city and Lake Onondaga. From the upper stories

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of the building when completed it is said there will be a good view of Lake Ontario. The building is to cost $136,000.00. They hope to commence another very soon, though the one in process of erection must be ample for the wants of the university for some time to come.

The present accomodations of the university in Myer's Block appear quite convenient. The professors are all competent, thorough, earnest men and the standard of scholarship is high. All the recitations are conducted in the forenoon. I noticed but three ladies in attendance though I suppose there are others. A chapter of *ΔΚΕ* has just been instituted. The college authorities look quite favorably on these societies and it is proposed to make provision for them in the new building. More anon.

LEON C. FIELD.

Cazenovia, N. Y., Feb. 2, 1872.

Yale College, (New Haven, Conn.)—The news of the week at Yale is mostly of a miscellaneous character:

THE LAW SCHOOL.

The second term of the year in the Law School will begin on February 14th, next. The instruction for the term will consist of recitations and lectures by the regular faculty: Judge Francis Wayland, M.A., Judge Wm. C. Robinson, M.A., Simeon E. Baldwin, M.A., and Johnson T. Platt, LL.B., upon the following topics: Evidence, Adminstration of Estates, Criminal Law, Equity Jurisprudence, and Contracts. In addition to these, lectures will be delivered by Hon. C. L. McCurdy, LL.D., upon Insurance, by Prof. James M. Hoppin, D.D., upon English Composition and Style; by Prof. Francis Bacon, M.D., upon Medical Jurisprudence; and by Mark Bailey, M.A., upon Forensic Elocution. The lectures by Professor Hoppin will commence at the opening of the term. The Law School of Yale, with its present board of instruction and lecturers offers advantages second to few in the country. It will be remembered that during the first term of each year, lectures are delivered by Ex-President Woolsey upon International Law, and by Prof. James Hadley, upon Civil Law.

MISCELLANEOUS MATTERS.

Two interesting lectures were delivered in different parts of the University last Monday evening. The opening lecture of the Mechanic's course at the Sheffield Scientific School, was given by President Porter, upon the Relations of Mind and Matter, and the regular lecture at the Art Gallery upon Greek Scripture, was delivered by Prof. Eaton. President Porter's lecture reached the conclusion that although it is very natural and even proper for science to make investigations into the realms which are commonly regarded as mental and spiritual, yet these investigations, when fairly and thoroughly conducted, do not lead to materialism. The lecture of Prof. Eaton was upon "The Metopes and Friezes of the Parthenon," and was a thoroughly interesting elucidation of the subjects and artistic merits of those wonderful sculptures.

A writer in the current number of the Yale *Courant* in an article in reference to prize debates, thus gives his opinion of the rhetorical culture of Yale: "We have certain exercises in English composition, though the lack of anything like sufficient rhetorical culture is plainly evident. Certain exercises also, which are called 'Forensic Disputations' find a place in the course of junior year. But that discipline which fits men for the platform, the forum, and the bar, is lacking entirely. With extraordinary exertion men may here learn to become tolerable writers, but what opportunity have we for becoming effective speakers? The smooth and graceful style of essay writing is taught surely, but not the strong, penetrating, vigorous style of speaking."

The days of trouble with the police are upon the students. We hear of one student being pulled about at Music Hall by a man who showed no badge or mark of office until he had considerably maltreated the student who was justly indignant at being thus handled by a fellow citizen as he had a right to suppose his assaulter to be. But the matter did not end when the policeman showed his badge and released the student. The latter spiritedly lodged a complaint with the police commissioners and was called out of recitation the next afternoon to receive an apology and arbitration from the offender. The apology being duly made and accepted nothing more was done. However, other students, to the number of four seniors and six sophomores, were caught by the police, at least some of them were, throwing snow balls at passers by and they have been indefinitely suspended by the faculty.

The project of converting Brothers Hall into a reading room is being agitated again, and with considerable show of reason.

It is announced that a pitching alley has been contracted for, and will soon be an accomplished fact. It will occupy the place of the bowling alley at the eastern side of the room beneath the gymnasium. The floor of the present alley will be taken up and a new and smooth one laid down for a distance of some fifty-five feet. At the farther extremity a wall and target will be erected, and the windows and remainder of the room will be protected by means of wire network. According to the present plan there will be room for but one individual to pitch at a time, but the alley can be easily enlarged so as to accommodate two or more.

It is probable that the base ball contest between Yale and Harvard the coming season, will consist of a series intead of a single game as heretofore.

The committee appointed at the boating meeting last term, to decide in reference to the course to be pursued this season, have concluded that it is best for Yale to enter the Rowing Association, and the necessary steps to this end have been taken.

The Sophomores have begun to declaim in the chapel under Prof. Bailey, and its sacred walls again ring to the recital of the valiant deeds of ancient worthies.

Only two or three were found prepared and willing to enter the Brother's Sophomore debate, and but few more in Linonia, so they were not held. David Humphrey, Cicero and Demosthenes weep together.

A prominent member of the senior class who intends to enter the ministry, has already received a call from a Connecticut parish. Salary $600.

On account of the illness of Bishop Williams, who was announced to preach the fifth of the series of Berkeley sermons, Rev. C. H. Hall, D.D., of Brooklyn was induced to come a week in advance of his appointed time, and deliver the fifth sermon. The house was well filled and the discourse, a thoroughly interesting one upon the duties involved in the ministry. Dr. Hall was a graduate of Yale of the class of 1842, and a classmate of Prof. Hadley, Prof. John A. Porter, J. Hammond Trumbull, and ex-Gov. Runyon, of New Jersey.

GLEANINGS.

PERSONAL.

— Professor Goodale has no college recitations to attend to this term, but will lecture before the medical class.

— The Vermont State board of agriculture has appointed the Hon. N. B. Safford and Professor Peter Collier as delegates to the agricultural convention to be held at Washington on February 18.

— It is reported that Professor Chadbourne, formerly president of Wisconsin State University, is to have charge of the departments at Bowdoin College, which were formerly presided over by ex-president Harris.

— Professor George Davidson, of the United States Coast Survey at San Francisco, and Hon. R. W. Taylor, of the Treasury Department, have been appointed by the President additional commissioners at the annual assay at the Philadelphia mint on the 12th of February.

— Professor Joseph Henry, secretary of the Smithsonian Institution, was authorized at the late meeting of its regents to take measures for communicating to European astronomers and receiving from them by the ocean cable, telegraphic accounts of discoveries of new planets. Under the present custom the place of a planet may be lost if discovered in Europe before it is known where to look for it here.

— At the quarterly meeting of the Baptist State Social Union held in Hartford Jan. 31st, the following vote in reference to the election of Rev. Dr. Robinson to the presidency of Brown University was passed: *Resolved*, By the Baptist Social Union of the state of Connecticut, that the action of the corporation of Brown University in calling Rev. E. G. Robinson, D.D, to the presidency of that ancient and honored seat of learning is in perfect accordance with our wishes, and we venture to express the earnest hope that the invitation will be accepted.

COLLEGE.

— Bowdoin College has fifteen religious services a week, all compulsory.

— The new university hall at Michigan University, will seat 2400 persons.

— Exercise in the gymnasium is compulsory, under certain regulations, at Bowdoin College.

— The *Orient* calls for some one of the patriotic alumni of Bowdoin, to build a bathing house for the use of the students.

— Senator Thurman, of Ohio, is to deliver the address before the summer meeting of the Literary Socicties of the University of Virginia.

— The honors of Horace Greely increase. He has lately been made an honorary member of the Athenian Society at Indiana State University, Bloomington, Ind.

— If Brown University will prepare suitable quarters for their reception, Colonel Stephen T. Olney offers to the college his herbarium and collection of works on botany.

— Mr. G. C. Broadhead, assistant State geologist of Missouri, is engaged in arranging and labeling the fossils of the State collection at the State University of Missouri, Columbia, Missouri.

— It is said that at Indiana State University, a meeting of the trustees has been called at the request of the law faculty to consider the propriety of changing the moot courts into spelling matches.

— It is announced that $60,000 have already been raised for the endowment of the Theological Department of William Jewell College, Mo., and an effort is being made to increase it to $300,000. There are sixty students preparing for the ministry.

— The Harvard *Advocate* complains of the decline in boating at that institution, and attributes it to a general lack of interest and support among the non-rowing part of the University, and a growing want of men who combine the requisite qualities of muscle and executive ability.

An effort is now being made to raise $200,000 for the benefit of Ohio Wesleyan University at Delaware, Ohio. The plan is that four hundred out of the four hundred and twenty patronizing charges in the four supporting Conferences shall raise an average of one hundred dollars a year for five years.

— About one hundred students of Harvard have subscribed two dollars each toward a reading-room, and a committee of three from each class has been appointed to draw up a constitution, to recommend candidates for the offices; to petition the faculty for aid; and report their doings within a week.

— The seniors at Williams are studying English literature and aesthetics, the juniors, political economy and Lucretius and Juvenal, the sophomores, calculus, Electra, and French and German, the majority taking French; and the Freshmen, geometry and Herodotus with two recitations a day in the latter study.

— Mr. James L. Stevens of Columbia, Missouri, recently gave $20,000 to the Baptist Female College in that State, which institution consequently changed its name to the Stevens Female College. Mr. Stevens has now proposed to increase his subscription to $50,000, payable at his death, provided the friends of the college will secure an endowment of $50,000 besides.

— At a recent meeting of the University court of the University of Edinburgh, that body declined to give effect to a recommendation of the Senatus, that the regulations in reference to the medical education of women, should be rescinded. The court, however, took care not to be understood as expressing any opinion as to the claim of women to proceed to graduation, or as to the powers of the University to confer medical degrees on women.

— Rufus B. Kellogg of Oshkosh, Wis., has established two prizes of $50, each to be given to the best speaker from the freshman and sophomore classes of Amherst college. These prizes take the place of the former "Sweetser" prizes for declamation. Mr. Kellogg provides for the expenses of the exhibition, and has also given $500 for the projected art collection.

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The $200 formerly given in four equal German scholarships by Samuel D. Warren of Boston, is now applied in two scholarships of $70 each, and two German prizes of $40 and $20.

— As previously announced, the public exercises of the Junior Class of Haverford College were held in the Alumni Hall of that institution, Wednesday, January 31st. They were well attended and much interest was manifested in the orations—eight in number—which were pronounced. The Philadelphia *Press* devoted nearly two columns to a review of the proceedings, printing one of the orations in full. On the Tuesday evening previous to the public exercise, addresses were delivered before the Loganian Society by Professor Henry Hartshorne upon "Landmarks of Thought," and by Professor Pliny E. Chase upon "In the Beginning." They were followed by T. Rowland Estes, of the senior class, who delivered an oration on "Antonius and Epictetus."

—

MISCELLANEOUS.

— It is stated that the average yearly number of visitors to the South Kensington Museums in England durthe last five years has been 905,084.

—Robert Brooks and T. W. Cain, two colored men, graduates of Lincoln University, are about entering the Episcopal divinity school at Philadelphia, intending to fit themselves for the Episcopal ministry.

— M. von Muhler, the Cultus Minister of Germany has resigned. The department over which he presided is the highest authority both in educational and ecclesiastical matters in the State, and under the control of von Muhler has been quite unpopular.

— The recent change in the day of prayer for colleges from the last Thursday in February to the last Thursday in March caused some inconvenience to quite a number of the colleges of New England, at least. The last Thursday in January occurs in the vacation of several of the older colleges. The old day, therefore, will be observed by Dartmouth College, Brown University, Middlebury College, the University of Vermont, Bowdoin College, Bates College, and Colby University.

— The ethnological collection of the late Dr. Gustavus Klemm of Dresden, has been purchased by subscription and transferred to Leipsic where it forms the nucleus of the new German Central Museum of Ethnology. This collection is very rich in illustrations of dress and ornaments, households utensils, furniture, warlike fishing and hunting implements etc, extending from the earliest times down to the immediate present. An earnest appeal is made by the officers and others interested in this enterprise to their countrymen in the United States, for contributions.

— At a meeting of the Synod of Northern India, held last November at Allahabad, it was voted to establish a Theological Seminary at that place, for the purpose of training natives for the work of pastors and evangelists. Revs. S. H. Kellogg and T. S. Wyncoop were designated as resident instructors, the former being principal. Revs. J. Newton, Sr., J. H. Harrison, D.D., K. C. Clattergee, and J. F. Ullman were chosen to act as assistants, and will in succession come to Allahabad for the time requisite for an annual course in their departments. The first session will open on the 15th April next, when about thirty students are expected. Contributions towards a library are solicited and may he sent to Rev. S. H. Kellogg, Mission Rooms, 23 Center street, New York.

YALE "BEGGING—THE QUESTION" SETTLED.

The vigorous efforts to endow Yale College with a Woolsey Memorial Fund of half a million of dollars promise to be successfully realized.

Indeed the object appeals so directly to the sympathy and gratitude of every Alumnus that our surprise is not that a sum of such magnitude should be collected; but rather that the University should so periodically, nay constantly be reduced to positive straits. The fact is every special addition to its abilities results in increased necessities; as witness the present needs of the Divinity School so soon after a most generous endowment.

Obviously what the college permanently want is not spasmodic efforts and results, but a continuous, and for the present, annually increasing income on which she can rely. A very imperfect effort to meet this want is evinced in the raising of class funds; usually for a specific purpose.

Of course at the date of graduation, the majority of a class is so nearly destitue of means as to be incapable of contributing a little of the amount which their desires prompt.

Yet this is *the* time to mature some systematic plan of testifying in substantial form their appreciation of a debt which they can never adequately repay. No future time will furnish the youthful enthusiasm and the power of class union which now exist.

In place of these may come increased wealth; but at the same time a thousand nearer, and preoccupying affairs which dim the remembrance of classic shades where the foundation of present success and happiness was laid. There are many instances of course (to which the bare existence of the college testifies) of grateful Alumni, sharing nobly with their Alma Mater their worldly gains, but these are exceptional and irregular at best; and owing to impecuniosity on the part of a graduating class, and subsequent want of system in giving, the great desideratum to the college of a continuous income still exists. It is apparent that the way to solve the problem is to devise a satisfactory system, and then graft it, if possible, on the older Alumni, but in all events upon the senior class. A statement that such a solution is so far practicable as to enable the college to receive from one to two hundred thousand dollars from every class independent of special gift, seems at first chimerical.

But a plan suggested to us by one of the officers of the Commonwealth Life Insurance Company of New York seems sufficiently novel and reasonable to be worthy of presentation.

Every true alumnus hopes eventually to do some thing for his college. But how many from neglect or contracted means do little or nothing.

Here is a plan by which every man, rich or poor, long or short lived, can make sure of giving at least the sum of *one thousand dollars* to his alma mater: Let each of one hundred men of the class of 1872, for example, secure an insurance policy on his life, for which at the average age of his class the semi-annual premium required of him is only *nine dollars*.

In consideration of this payment the Commonwealth agrees to pay the college at his death the sum of one thousand dollars.

We venture the assertion that no man in the class would be too poor to pay so slight a premium, and how handsome is his certain gift! Moreover, the policy receives its share of the profits of the company.

This can either be applied to reduce the cash premium paid, or still better, to purchase additions to the policy which can at any time be reconverted into cash and frequently pay the whole premium at times when it might be inconvenient otherwise so to do.

Then in the possible, though improbable, event, that the insured, either through choice or necessity, should not be able to continue the policy, the college does not lose the benefits of what is already invested, but is enabled, by the liberality of the company, to receive a paid up policy for the full amount of premiums previously paid.

A special non-forfeiture feature, also offered by the Commonwealth, and, so far as we are aware, by no other company, is the *Interest Bearing Bond*. The company agrees in the policy after three annual payments, to issue an interest bearing bond for an amount equal to the full cash reserve required by the official valuations of the New York State Insurance Department.

(1.) The bond so issued is receivable at par at the office of the company *at any time* to pay for a paid-up insurance policy or in payment of annual premiums on any policy thereafter issued to the owner thereof; or it may be used to purchase by a single payment a life annuity, thus providing him with a guaranteed income until death. When so used, five per cent interest from the date of its issue will be credited to the insured upon the bond.

(2.) The bond may be sold to the company at any time for a cash surrender value.

(3.) Liberal loans will be made upon the bond as collateral security, for which only five per cent, interest per annum will be charged.

(4.) If not previously redeemed in any of the ways mentioned above, the bond will be paid at the time specified in the original policy on the surrender of which it was issued.

By this plan the Commonwealth Life Insurance Company offers the most favorable form of insurance ever presented; each policy, as shown above, containing in itself the elements of its own perpetuity and continuance, and, in addition, it offers all the benefits of the savings bank.

It will be observed that the special advantage of this bond is, that it places a security in the hands of the insured which enables him to decide at *leisure* its ultimate disposition, instead of compelling immediate action which future circumstances might lead him to regret.

In connection with such flattering promises, a question as to their certain fulfillment must present itself to every intelligent mind. Life insurance companies are based upon no speculative theories.

While nothing is more uncertain than the duration of one individual life, nothing is more certain than the law of mortality when applied to a large number of lives. The principles of this law have been so accurately established by tabulated experiences of two hundred years, that rates of premiums for insurance based upon them possess an unquestionable guarantee of security.

The reliability of this guarantee has so impressed itself upon those who have examined the matter, that it appears from the last official New York State Report, that on the 31st of December, 1870, the companies doing business in the State had upwards of seven hundred and thirity-one thousand policies in force. That this confidence was not misplaced is demonstrated by the fact that these companies paid during the year 1870 alone, to the families of deceased members and policyholders who had insured in them, the large amount of *twenty-eight million three hundred and fifty-eight thousand eight hundred and ninety-six dollars.*

All New York companies are required, before commencing business, to deposit $100,000 with the New York State Insurance Department, and to make annual statements thereafter. By *annual* official valuations of every policy issued by every company and frequent personal examinations of the companies' assets, the Superintendent obtains the most absolute security.

The question of reliability then being settled, can any man question for a moment his ability to pay about four cents a day to secure an immediate guarantee of one thousand dollars to his Alma Mater? If a friend offered to give an estate to her on the simple condition that you would pay the taxes thereon until your death, would you not willingly accept his offer? But, by paying less than two per cent premium annually, you can secure her any sum you choose, not in property of doubtful value, but in solid cash. While the "life blood of insurance is interest" we trust that no one perusing these suggestions has imagined that the proposed advantages can be secured through the medium of savings banks. These do indeed afford *investment* privileges, but no *guarented investment* in case of death.

Life insurance has both of these advantages, by taking a fair average of risks. But neither the Commonwealth nor any other wealthy corporation can afford to take the risk of insurance on a single life only, much less can any individual on his own life.

A deposit in a savings bank is exposed to three great evils—First, it is not increased regularly because it is purely optional with the depositor whether or when he shall increase his savings—Secondly, the deposit may be, and is, in a majority of cases either wholly withdrawn or so far dissipated by "nibbles" as to leave the chance of a substantial residue exceedingly precarious. Thirdly, in case of death before an advanced age, the amount must inevitably be small as compared with what the same deposit would have received in insurance.

Of course the older alumni could be embraced in the above proposed plan and many of them would with ease carry a policy for five or ten thousand dollars, although they do not *now* feel prepared to present the college with so large a sum.

It is no extravagant assertion that before the close of this year THREE MILLIONS of dollars (kept good by the additions from each graduating class) might be guaranteed to the college and the amount annually received therefrom spent for the immediate benefit of the institution instead of being hoarded in an endowment fund yielding a petty annual interest. The scheme is a novel one but not the less practicable. Will the class of '72 take the initiatory steps?

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HARVARD COLLEGE.—The second EXAMINATION FOR ADMISSION will be held on Sept. 28, 29, 30, beginning at 8 A. M. on Sept. 28. For the benefit of students who have been better trained in mathematics than in classics the requisites for admission have been so modified as to present a mathematical alternative for a part of the classical requisites heretofore enforced. Any candidate *may* now substitute solid geometry, advanced algebra, plane trigonometry and elementary mechanics in place of the following portions of the regular requisitions in the Classics, namely—the Georgics and last six books of the Æneid of Virgil, the last three books of Cæsar's Commentaries, four orations of Cicero, Latin Composition, the last three books of the Anabasis, the third book of the Iliad, and Greek Composition. A circular describing the requisites for admission, and recent examination papers, will be sent on application. Failure at the examination in five or six of the fourteen subjects will not necessarily cause rejection, provided the failure be not total in Latin, Greek, or Mathematics, and provided the candidate give promise of being able to pursue creditably the studies of the Freshman year. RELIGIOUS OBSERVANCES.—Undergraduates must attend daily prayers in the College Chapel. The College provides seats for its students in all the neighboring Cambridge churches, including churches of the following denominations: Roman Catholic, Orthodox Congregationalist, Baptist, Methodist, and Episcopal. The College respects and does not seek to influence the religious convictions of its students. The NECESSARY EXPENSES for room, board, tuition, fuel, lights and books are about $350 a year. Money is freely given and lent to promising students. There are, moreover, seventy-four scholarships, with a total disposable income of $16,000 a year.

UNIVERSITY LECTURES.—The following courses wil be given in the year 1871–72: *Throughout the year*—J. R. LOWELL, on Early French Literature; F. J. CHILD, on Gothic and Icelandic, or on Anglo-Saxon; G. M. LANE, on Plautus and the Roman Satirists; F. BÖCHER, on Historical French Grammar; W. W. GOODWIN, on the Legal Orations of Demosthenes, or on Plato's Republic and Aristotle's Ethics; T. S. PERRY, on the Elements of Sanskrit; H. A. HAGEN, on Entomology; N. S. SHALER, Geological Excursions; J. P. COOK, on Advanced Chemistry. . . . *In the first half of the year*—J. B. GREENOUGH, on the Comparative Etymology of Greek, Latin and Sanskrit; also, on the Comparative Inflections of Greek, Latin and Sanskrit; E. A. SOPHOCLES, on the Early Christians; J. K. PAINE, on the History of Music; W. H. BREWER, on the Botany of the Pacific States; N. S. SHALER, on Palæontology; J. B. PERRY, on the Life of the Primoidial Era; J. A. ALLEN, on Ornithology; B. PEIRCE, on Celestial Mechanics; J. M. PEIRCE, on Modern Methods in Geometry. . . . *In the second half of the year*—E. ABBOT, on the Textual Criticism of the New Testament; J. B. GREENOUGH, on the Comparative Syntax of Greek, Latin and Sanskrit; F. E. ANDERSON, on Books I–III of the Iliad: E. A. SOPHOCLES, on the Sects of the First Three Centuries; S. ELIOT, on the History of the Nineteenth Century; C. F. DUNBAR, on Political Economy; O. W. HOLMES JR., on Jurisprudence; C. C. PERKINS, on the History of Italian Art; J. LAFARGE, on Composition in Art; A. GRAY, on Botany; J. WYMAN, on Ethnology; J. D. WHITNEY, on Higher Structural Geology: J. TROWBRIDGE, on Recent Researches in Magnetism. A separate fee is charged for each course. The courses vary in length from six to thirty-five lectures. There is no examination for admission. The University Lectures are intended for graduates of colleges, teachers, and other competent adults (men or women). A circular which gives the details about these lectures will be sent on application.

The Scientific Establishments of the University (above enumerated) offer instruction and opportunities for research in all branches of Natural History, and in Agriculture, Horticulture, Chemistry, Astronomy, Mathematics and Engineering. The Examinations for admission to the Engineering Department of the Lawrence Scientific School, the Mining School, and the Bussey Institution will be held on September 28, beginning at 9 A. M.

The following documents may be obtained on application to J. W. HARRIS, Secretary, Cambridge, Mass.: The University Catalogue for 1870–71, the List of Elective Studies for 1871–72 in Harvard College; the Examination Papers used in the year 1870–71; the Announcements for 1871–72 of the the University Lectures, the Law School, the Medical School, the Dental School, the Lawrence Scientific School, the Mining School, and the Bussey Institution.

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C. F. CHANDLER, PH.D., Analyt. and App. Chemistry;	OGDEN N. ROOD, A.M., Physics;
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For further information and for catalogues, apply to

8 DR. C. F. CHANDLER, *Dean of the Faculty.*

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At the close of the Academic year, premiums will be awarded for the best dissertations on subjects to be hereafter announced Two terms annually. Fall term opens Sept. 13th, 1871. Terms, $90 per annum. Further information may be obtained by addressing WM. C. ROBINSON, Dean of the Faculty, at New Haven. Conn. 10

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, FEBRUARY 17, 1872. NUMBER 7.

COLLEGE CATALOGUES.

By prescription it has become a common law that any school that is dubbed a college, should publish once a a year a catalogue. The consequence is that our soil seems to be specially productive of colleges male and female, and they must all have their thousands of catalogues, so that there is no end of these sent out every summer. I am not at all a prominent man in the literary world, and yet I receive scores of these documents every season, of every conceivable size and character, from the plain business-like ones of Yale and Harvard to the dainty offering of the last "Chartered College for Males and Females."

Now there would be nothing wrong in all this, if those who publish them stuck to the truth and did not practice a species of chicanery of which fifty-cent stores should be ashamed. It is not, perhaps, a cause for blame that so much paper is wasted in putting out these productions, as it is that we get up so many concerns called colleges and universities which, except the name have not a single element of such institutions. They are in fact but common schools, and some times very indifferent ones at that, to which we give these high-sounding names, in our eagerness to appear more than we really are.

We are very sensitive as to what learned men visiting us from abroad may think and say of us and our institutions and often we show a greater lack of reason in not receiving their criticisms than they of candor in offering them. There is one thing however of which we Americans may well be proud in comparison with any people of the Old World, the Prussians not excepted; it is our system of common schools. We venture to affirm that no one from Europe traveling through the United States and visiting the public shools of Boston, New York, Cincinnatti, St. Louis, or San Francisco, would question the assertion that the common school system of our country is its glory as far as education is concerned; that it is all it claims to be, and that while it may be made still more efficient in some respects, there is no humbug about it. We can easily fancy such a one completing his survey, standing in the elegant halls of the Lincoln or Denman High Schools of San Francisco and giving utterance to his admiration for what must ever be the boast of our land—our incomparable free schools.

Let us, however, picture to ourselves this same European scholar making a similar examination of our institutions called colleges and universities. How changed the feelings of the man! He has, we may suppose, before he left home, read the catalogues of these institutions and formed such an opinion of their merits as these catalogues portray. But I ask any one at all cognizant of the facts in the case if the traveler's ideas of us and our education will not be the very reverse of all he had previously formed? We ought not, then, to take it amiss if foreigners have a poor opinion of us in this respect, for I venture to say there is nothing among us in which there is more deception practiced than in getting up college catalogues. A cursory examination of a few of these will convince the most sceptical that this is not a rash declaration.

The fault in this matter is twofold:—1. We call by the name of college or university what is not either, in any proper signification of the terms. 2. In the catalogues of these we practice a species of chicanery that is wholly unworthy of the cause of education and which in many cases amounts to positive falsehood.

I am well aware, though a western man myself, and an educator in the West for a quarter of a century or more, that this evil is more prevalent here than in the East. It is however, too common East, West, North, and South. It seems with many to be enough that any common affair have two or three teachers, *alias* "Professors" to be called a college; and when this has grown to have four or five of these with a hundred and fifty boys and girls, as students, to dub it a *University*. In some cases the teachers are hardly fit for a good common school, and the pupils ought to be mastering the *prima elementa* in the village school house. For these so-called colleges and universities, we must have *proh pudor!* chancelors, regents and presidents made out of men who cannot read correctly a single line of Hebrew, Greek or Latin; or write a dozen in grammatical English.

If the evil consisted alone in giving the wrong names to things, though that were bad enough, it might not deserve severe animadversion. Sallust of old said the Romans had lost the true names of things, but we have changed the *nature* not the *names* simply of our schools. It matters little that we call schools academics, academies, colleges, and colleges, universities; but by emasculating our good old-fashioned schools of the healthful discipline they once had, suited to the boys and girls that attended them, and by introducing college customs adapted to neither teachers nor pupils we have ruined the schools and failed to make colleges. There is hardly a respectable town in the West that does not boast its college and university; and thousands of dollars are annually squandered to keep up the pomp and circumstance of collegiate life.

That all this may not appear *vox et prœterea nihil* let me mention a few out of many things which have come under my own observation. I was once stopping at the capital of one of our Western States, that plumes itself not a little on account of its university and colleges, male and female. Entering the former what think you I saw? In one of the rooms of quite a stately building was a young lady with some forty or fifty little urchins learning to spell and read in McGuffey's 2d, and I was blandly told that by next session she would have them ready to begin arithmetic. Now it was all right for this young woman to be teaching these children to spell and read, and to push them forward to arithmetic in a year or so; but is it right to call the school in which this good work is being done a university? Is it right to spend hundreds, nay, thousands of dollars in erecting buildings and keeping up the appearance of a university with its chancelor, regent or president, as the case may be, to do a service, laudable in itself, but much better done in primary and common schools? Is it honest to publish a catalogue with these childrens names mixed up with others as "members of the university?"

Another case is before me. A school that calls itself a college has besides its president one male and one female teacher, but then, the list of the "Faculty" must be made up, and to help do that a "Professor of Telegraphy" was recorded. That means, I suppose, that a young man working the "instrument "down in the town, is professor of telegraphy, at a remuneration of a few dollars per month, and magnifies his office by exhibiting his instrument once a session and showing the children how it works under his magical manipulations. But then his name helps to swell the list of professors and that is enough. Truly Solomon was right when he said: The Lord made all things double and set one thing over against another. If there are people who like to be humbugged, there are never wanting charlatans ready to do it.

It would be tedious to enumerate all the the dodges used to conceal the poverty of many of these pretentious institutions, in professors, students, and course of study. Let any sensible man at all familiar with what colleges and universities ought to be, read the catalogues flooding the country every summer, and if it does not disgust, it will at least amuse him beyond measure. Examine the curriculum of study in Latin, Greek and mathematics, often copied from other colleges, and he will not unfrequently find that half the text-books have never been within these colleges, much less taught in them.

Then look at the way in which a list of names to form a faculty is made up, the same professor filling several chairs, and his name appearing in connection with every one of them. And again the well known ——— professor of chemistry, or metaphysics, or something else, with the foot note whose promise that "this chair will be filled before the opening of the next session," is hardly ever kept. We all know what the following means: "Other professors will be appointed as the exigencies of the college may demand." Alas! for the "exigencies;" they never come, at least for the professors; though not a few do for winding up the enterprise.

Not the least shameful thing in these documents of which we speak are the plans resorted to for increasing the list of students' names reported as in attendance. The thing is easily done. In the same town with the university is a business school, in which for thirty or forty dollars a scholarship may be had entitling a young man to attend as long as he pleases, which is seldom more than two or three months. This with its ever changing tide of pupils is made by some manipulation "one of the colleges of the university" and its one or two hundred pupils go to make up the eight hundred students in the university. Take from these catalogues the names of those who ought to be in good primary or common schools, the preparatory students, the commercial college, and others that common sense and common honesty ought to deduct, and the list will decrease till there will be found in reality three or four seniors, a few juniors, and the rest hardly prepared for the freshman class of a respectable college.

I have seen a paragraph going the round of the papers of late that there are three hundred and eighteen collegiate institutions in the United States. Now of these three hundred and more colleges and universities, so called, I am persuaded that not more than a dozen deserve to be called by the latter name; perhaps fifty by the former; the rest are academies, seminaries, high-schools, etc.

The statements of this communication may appear rash to many of the readers of your excellent journal and I am not unaware that some of our western college men will regard this a rather slashing criticism upon our system of catalogue making. Some may feel disposed to deny the truth of what I have said, others to apologise for the things condemned, but I am greatly mistaken if a large majority do not deplore the evil and approve its exposure. For our credit I would that what I have said could be shown to be unjust, but let any one read the documents of which I speak, and then examine the institutions they *misrepresent*, and I shall be content to abide the result. WESTERN.

CO-EDUCATION OF THE SEXES.

BY PROF. O. F. LUMRY, OF WHEATON COLLEGE.

As the discussions of this subject have been mainly theoretical, and as my lot for the last seventeen years has been cast where I have had constant experience in the matter, I have supposed it proper to give some facts that have come under my observation. My experience and observation have been to me perfectly satisfactory on the following points:

(1.) Boys and girls think of each other less, and seek

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each others company less, in improper ways and at improper times and places, when brought into frequent contact in recitation rooms and college halls than when kept in separate institutions.

(2.) Cases of scandal are much rarer in mixed schools than where the sexes are educated apart.

(3.) Order in class is much easier secured where the sexes are together.

(4.) Each sex is not a hindrance, but I think, in every way a help to the other.

We have a Freshman class consisting of two young ladies and several young men who have had the same opportunities, and been held to the same requirements. I am sure that any impartial committee examining them would mark the girls first and second in Cicero de Officiis and Xenophon's Memorabilia. I have had other classes in which the preponderance of intellectual power was as clearly the other way. Judging from my experience, I can but feel that if it was entirely possible to afford the young ladies equal facilities for education in separate colleges and universities, it would be a misfortune to both sexes to make such an arrangement. Co-education does not necessarily mean that in every case, and to the same extent, they are to pursue the same studies; but that, so far as they do pursue the same studies, their exercises should be together. As the aim of the college course is mainly to develop intellectual and moral power, I think that experience has shown and will continue to show that, making due provision for elective studies in the third and fourth years, the ordinary college curriculum is just as well adapted to the wants of one sex as the other.

After-life is the post-graduate course that must try all systems. The best education in every respect is that which, while providing for intellectual, moral and physical culture first, best fits the pupil for all the relations he is to sustain in the great future. Now it so happens that the life work of men and women, in every department of society, has to be performed side by side, and an intimate knowledge of the mental idiosyncrasies of the other sex, and an easy bearing in their presence, are absolutely necessary to the happiness, and in many cases to the success of each. If they are separated before they are of an age to realize that they belong to different sexes, and educated apart until their characters are fixed and their mental and bodily habits have grown rigid and inflexible, and they suppose, often, their education is finished, and what they have not learned is not worth knowing; how are they to get this peculiar mental and physical education so indispensable?

Many of the graduates of male colleges who have become very successful in their chosen callings, confess that in the beginning of their career they were exceedingly mortified when they had supposed their education finished, to find themselves entirely lacking in one of the indispensible qualifications for success. Others fail to accomplish much for themselves or others with their education, when the only assignable cause for such failure is want of knowledge of human nature as it is developed in the other half of the race.

The professional school where the graduates of both kinds of schools come together, is a very good place to observe the comparative merits and defects of the different systems. The testimony, so far as I am informed, is that the graduates from the schools where co-education exists, appear far better than those of either the male or female schools, having learned how to conduct themselves in mixed society, an accomplishment the others often have yet, if ever, to acquire. Our teaching corps includes one lady who is principal of the female department and has charge of the deportment of the young ladies. The position is one of especial difficulty, and which from various causes has had quite a large number of occupants. There have been some times one or two assistant lady teachers. Some of these have succeeded well, and others, from one cause or another, have partially or totally failed. Some of them have been graduates of institutions where the sexes were educated together and others of ladies' schools. Some of each class have succeeded. Of the failures growing out of want of ability to manage their own relations to the other sex or to manage the pupils under their care, so as not to injure their usefulness as teachers, every one has been of those who were graduates of ladies schools. Also among the gentlemen teachers, including graduates from colleges East and West, every failure from the above causes has been from among the graduates of male institutions.

I think that the idea of separate schools for the training of the sexes in the higher studies, did not grow out of any intelligent "consciousness of a native difference of mind suggesting and demanding diversity of intellectual discipline," but had a religious origin in the monasteries of the dark ages. Priests mainly constituted the educated classes. The Jewish system established by God himself was, probably, the source of the idea that men alone could be priests. The Monasteries where the priests were educated were all the higher schools there were. When the human mind burst its shackles in the times of the Reformation it was but natural that the same general system, modified in some particulars, should continue, and thus grew up the higher schools and universities for men. When the human mind once set free began to see that the other half the race needed to know something, very naturally the male schools were taken as models and separate high schools grew up for women. If the experiment of shutting men and women up in separate institutions for the purpose of developing holiness in them was a failure, we ought not to be surprised if doing the same thing to make them wise, is not a perfect success.

THE FERTILIZATION OF FLOWERS BY INSECTS.

The subject of the Fertilization of Flowers by Insects was most agreeably and clearly treated by professor Asa Gray of Harvard University in a lecture on that theme, delivered last week as one of the course of Scientific lectures with which New Haven is now being favored. In opening his lecture Professor Gray expressed the fear that his voice might give out before the patience of the audience, but fortunately for them it proved equal to the task he had assigned it, and gave one of the most interesting exposures of a most fascinating subject to which it has ever been our pleasure to listen. In the rear of the speaker upon the stage some diagrams had been hung, upon which were fine representations of some of the more common flowers, such as the Arethusa, the Fuchsia, the Iris, and an Orchis or two, with a few that were more rare.

After pointing out and describing a few of these flowers, Professor Gray remarked that some of the facts which he was to relate were not altogether new but their meaning, that which transforms them into illustrations of the economy of nature, was a recent acquisition for science. It has been familiarly known to botanists that insects visiting plants for food were incidentally useful to them in reproduction. They were also aware that some plants depended upon these visits for their fertilization. But they took their ideas about this fertilization rather from those plants which seemed independent of such means than from those in which it was prevalent. A majority of plants are hermaphrodites; the pistil or seed-bearing part is surrounded by stamens of such number and the pollen in the anthers on these stamens is so abundant, that it would seem very natural for this to be detached and fall or the stigma, or receiving surface, and thus the plants be self-fertilized, or entirely able to take care of themselves. Several considerations were mentioned as confirming this view. In most cases the stamens and the pistils are contained in the same flower; the stamens are more numerous than the pistils; the pollen is furnished in great super-abundance; the position of stamens and pistils favors such a conclusion, for in many pendant flowers the stigmas project, below the anther, while in those which are upright, gravitation would carry the pollen to its proper place; and sometimes the stamens are shut up together with the pistils. In the Iris each stigma has a stamen almost in contact with it, and in the Arthusa one seems to lie upon the other.

But, said the lecturer, let us look at some of these cases a little more critically. He then proceeded to explain that in the case of the Arethusa, where the pollen seems to lie upon the stigma as upon a shelf, only the under side of this shelf is stigma and fitted with the sticky surface to which the pollen can adhere, while the pollen itself is covered over by the anther in the form of a helmet shaped lid. To make this clear, the lecturer, likened a table, which stood near, to the shelf, and his hat which lay upon it to the lid under which lay the pollen, in its sacs, and the under side of the table to the stigma upon which the pollen must act in order that the plant may be fertilized. He then remarked that if we had had the arrangement of it we would probably have turned the shelf the other side up. The same incompatibility was shown in the construction of several other flowers. In some the anthers and stigma's face in opposite directions, while in others the anthers are carried away, in the expanding of the flower, as far as possible from the surface which they seemingly ought to fertilize. In reality, said the lecturer, these arrangements seem to be elaborate contrivances of "how not to do it."

But he continued, you all are ready with an explanation of the riddle. You say rightly, "these plants are visited by insects who help the flower out of its little difficulty. And now we think of it," you may go on to say, "the very reason why so many flowers produce honey or something insects like, is to tempt insects to visit them, that while feeding they may carry pollen from anther to stigma." This view is strengthened by the knowledge that so many flowers produce honey, which is of no use to them; for in nature the reciprocity is not all on one side. The fragrance of flowers and their bright colors as well, subserve this use, and still further those plants which are fertilized only by the wind produce neither bright colored corollas, nor fragrance, nor honey. The lecturer then proceeded to show how flowers were constructed as if on purpose to receive help from insects. As, for instance, in the case of the Arethusa it is so arranged that when a bee goes into it for honey he must go down past the lid which covers the pollen, and when he comes back, or raises his head he raises at the same time the lid and receives some of the pollen. If now he goes down again he can scarcely miss, when he finally withdraws, leaving some of the pollen on the under side of the shelf which is the stigma. The same explanation was clearly given in the case of several other flowers, especially the Orchis where the arrangement is such that the insect can scarcely fail in getting some of the pollen upon himself.

But why are the plants made thus? Why are they made to depend upon insects for fertilization when a seemingly more simple construction would render them self-fertilizing? Nature seems to put obstacles in the way for the purpose of getting over them. She places the pollen very near the stigma, but takes good care that it should not reach it, and then calls in the insects to help her out of the difficulty. This is surely cross purposes and in trying to account for it, we are landed in sheer bewilderment.

But the solution is easy enough, like all others. when once understood. It was guessed eighty years ago by Christian Conrad Sprengel, and he wrote a book explaining it. He, however, was ridiculed and his work forgot. But lately the same riddle has been divined anew by Mr. Charles Darwin, and if not one of his most important contributions to science is one of his happiest hits.

The simple explanation of the whole matter is that the pollen of a flower was not intended to reach its own stigma at all; but rather to fertilize the stigma of some other flower of the same species. The design is to

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secure cross-breeding, and for the reason that close-breeding is injurious. A principle, which has long been known true in reference to animals, is now applied to plants. Nature abhors close-breeding. In some plants wide-breeding is secured, as in animals, by differences of sex, but in the hermaphrodite plants other contrivances are necessary.

The lecturer then proceeded to show how the insects visiting different flowers received the pollen upon their bodies in such places that it would be left in its proper place, when they went to another flower. In some cases the pollen is received upon the head, and in others upon different parts of the body, but always where it will be rightly deposited, if another flower of the same kind is next visited. And this insect aid seems to be general. If a plant is covered with gause to prevent their access the stigmas perish and the pollen is wasted. And although in certain cases, as the pea blossom, or bean blossom, self-fertilization seems to be aimed at, yet we find different kinds of beans frequently mixed in our gardens, and it is well known that in some plants as the passion flower, the pollen is powerless to fructify its own stigma. The manner in which the insects aid plants in fertilization was dwelt upon at some length, the peculiar and exceeding interesting arrangement by which a kind of Loose Strife, noticed by Mr. Darwin, secures cross-breeding being fully and clearly shown. The ratio of the pollen to the chances of its reaching its destination was also stated. Thus in the case of pine and spruce, where the stamens and pistils are in separate flowers, an immense amount of pollen is provided, while in other flowers, frequented by insects where the chances of fructification are more numerous a proportionately less quantity of pollen is yielded.

The lecturer concluded by drawing from the facts and illustrations used a forcible argument for design in nature, and deducing from the design the existence and providence of an "Ordainer," without whom, in his own words, "we may well believe that not a sparrow only, but not even a grain of pollen may fall to the ground unheeded."

FISK UNIVERSITY AND THE JUBILEE SINGERS.

The institution which the band of singers known as the Jubilee Singers of Fisk University, are now bringing before the public had its origin in a desire and attempt to educate the colored people of the South, set free by the last war. Its history is brief but interesting. In October, 1865, the American Missionary Association of New York city, purchased half a block of land in Nashville, upon which was situated a large building which had been used as a government hospital during the war. In the following January a school was opened in this building for the education of the colored people, both young and old. At this time but little effort had been made anywhere in the country to secure this end, and in Nashville nothing had been done. The new school was called the Fisk School, and continued with twenty teachers and an average attendance of about 1,200 pupils until June, 1867. During this period the studies taught were mostly of a rudimentary nature, and the students drawn from all ages. It was no uncommon sight to see young children and old gray headed men and women, all learning from the same teacher. There was an intense desire to learn, and among those who were older the aim seemed to be summed up in a wish to be able to read the Bible. During these two years the regularity of study on the part of the students was much broken into by the demand for teachers. As soon as any one became competent to teach the merest rudiments, he or she was sought to go out and instruct those who had been less favored. However, the success of the school and the progress of ideas began to bring the subject of the education of the freedmen into more general notice in Nashville, and accordingly the local papers began to agitate the matter. As a result three public schools were organized by the city whose aim was similar to that of the Fisk school. This led the latter to take a step forward, and in August, 1867, a charter was secured, and the institution changed its name to Fisk University. The aim which was in view by this enlargement was to offer as fast and as far as practicable, the same advantages to the colored people for obtaining a thorough education and generous culture as are now furnished by the best educational institutions of the country. In accordance with this end an Academic, Normal and Collegiate Preparatory Departments were at once established. The title to the hospital buildings was also secured and a chapel and dormitory for girls erected. These departments have been in full operation since their establishment and with an average attendance of over four hundred, about one hundred of whom are from abroad and board in the institution.

Last fall, or at the beginning of the present collegiate year a College Department was established and a freshman class of four was regularly entered. This class is composed of two ladies and two gentlemen from 16 to 22 years of age. They were fitted in the institution, the ladies having been connected with it since its foundation and the gentlemen coming in a year later. The University is now governed by a Board of Trustees who act in conjunction with officers of the American Missionary Association. The present faculty consists of three professors and ten under teachers. It is designed as soon as practicable to enlarge the faculty, elect a president, and become self-sustaining. From the material now under instruction it is expected that larger and better fitted classes will follow the present freshman class.

But in order that these advances may be made and the institution become established upon a firm foundation a new building is imperatively needed. The old hospital building is fast approaching decay and will soon become entirely unfit for use. This need has been felt for some time but how to obtain the necessary funds was not clear. The American Missionary Association were unable to appropriate the amount required and consequently some other means must be devised. In this emergency the treasurer of the university, Mr. G. L. White, in connection with the Jubilee singers undertook, to raise the needed funds. It may be said here that the Jubilee Singers consist of nine persons, five women and four men, most of them formerly slaves, and of various shades of color. Their names are as follows; Miss Ella Sheppard, Pianist and Soprano; Misses Jennie Jackson and Maggie Porter, Sopranos; Misses Minnie Tate and Eliza Walker, contraltos, Messrs. Thomas Rutling and Benjamin Holmes, Tenors; and Messrs. I. P. Dickinson and Greene Evans, Bassos. Some of these have had a somewhat checkered career. At one time $350 was offered for one of the female singers, and $1,200 for one of the male singers. Since they have begun to get an education, one has been shot at in his school house, another has had to hide beneath his school house to escape the ku klux, and a third has had her school house burned. The songs which they sing are old slave songs, and as rendered by these Jubilee Singers are thrilling in the extreme. Almost entirely without our culture their voices blend with wonderful harmony and the wild songs of their period of bondage are rendered with marvelous power.

This band of singers started out last October, just in time to be almost overwhelmed and destroyed in the wave of sympathy which sprung up in consequence of the Chicago Fire. They accordingly met with poor success until recently they came to Brooklyn and New York. Here the tide turned and they have since been meeting with receptions which may almost be called a continual ovation. There is a good prospect that the end for which they started will be more than realized. A concert was given by the Jubilee singers in New Haven last Thursday night. The house was filled to overflowing, every seat in the house was reserved and nearly every one taken.

THE MEDICAL EDUCATION OF WOMEN IN THE UNIVERSITY OF EDINBURGH.

In the good old times in which the University of Edinburgh was founded, the study of medicine was confined to men—women had not begun to clamor, as they have in our time, for their so-called rights. Male physicians were deemed sufficient for all ordinary purposes and, therefore, in the regulations of the medical school which was then established no provision was made for women, while none was made which would absolutely exclude them. *Tempora mutantur*, however, and *nos mutamur* with them. Women have discovered that they are as capable of wielding the lance as the needle, and that they can administer Calomel and Jalap as well Soothing Syrup. Hence the great assault which they have lately made against the Edinburgh University.

The assault has been headed by a women of whom your readers have all heard, the authoress of a work on "American Schools and Colleges"—Miss Sophia Jex-Blake. On the 20th of March, 1869, she petitioned the Medical Society for permission to attend lectures in the Medical School during the session of 1869-70, stating that the services of lady doctors were in great demand among their own sex, and that it was advisable for Edinburgh to follow the example of Paris and Zurich in throwing open the doors of their universities to persons of both sexes. Her petition was brought before the faculty, and by a vote of five to one, it was resolved that she "should be allowed to attend the summer classes of Botany and Natural History as a student of medicine by way of experiment; that, in the event of her attendance interfering in any way with the discipline of the classes, the privilege should be withdrawn; and that the consideration of her request to attend other medical classes should be postponed until the faculty have seen the result of the experiment." Thus encouraged, on the 21st of June, she again addressed a letter to the faculty, stating that not only herself but other ladies desired to enter upon medical studies in the university, and requesting that they should recommend the University Court to sanction the matriculation of women as medical students and their admission to the usual examination, on the understanding that separate classes should be formed for their instruction. By a vote of four to two, resolutions favorable to the granting of her request were passed and sent up for approval to the higher Courts. On the 2nd of July, the *Senatus Academicus* resolved that women should be admitted to the study of medicine, in separate classes and on certain conditions. On this the University Court founded a set of resolutions, which being approved by the General Council, became law. They enacted, that women should be admitted to the study of medicine in the university, that their instruction should be conducted in separate classes confined entirely to women, that professors of the faculty of medicine should be permitted to have separate classes for them, that women not intending to study professionally might be admitted to such of these classes as the court might from time to time see fit, that the fee for each class should not be less than four guineas; that all who attended these classes should be subject to the existing rules as to matriculation, attendance, &c.; and that these regulations should take effect as law from beginning of session 1869-70. Two points in these enactments must be noted. The third clause is merely permissive, and therefore a professor lecturing to a separate class of female students, was to depend altogether upon his own inclination. Nor is there made any provision for the appointment of extra lecturers, if a professor should be unwilling to conduct such a class. Again, no mention is made of graduation. It seems indeed to be implied in the fourth clause, but nothing definite is asserted. Indeed at the meeting of the court, although the supporters of the ladies were called upon by their opponents to frame some resolution with regard to their graduation, they were unprepared or unwilling to do so, and it was left an open question.

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Immediately after passing the above resolutions, Miss Jex-Blake and the other ladies went successfully through the preliminary Examination in Arts, and matriculated as medical students. During their first session nothing worthy of notice occured. Special and separate classes were held for them, and they were taught in the same manner and by the same men as the male students.

So far then the movement was regarded with general favor. A large majority of the professors in Arts, Theology and Law were its supporters; and at least four of those in Medicine had voted favorably on the new resolutions. Majorities also in the University Court and General Council had given their approbation. The hopes of the ladies' friends were high, and they had great anticipations of success. Nevertheless they knew their opponents commanded a majority in the faculty of medicine and, that the opposing professors cold refuse at any time to give lectures. In anticipation of future difficulties, therefore, a society was formed, whose object was the promotion of the medical education of women, and its members resolved that their object should be gained if their influence and money could gain it.

Medical students of the University of Edinburgh may take four courses of lectures on certain subjects from recognized extramural lecturers, instead of attending the college classes. In the session of 1870-71, Miss Jex-Blake and her allies availed themseves of this provision, and among others they joined, in the Royal College of physicians and surgeons, a recognized class of Practical Anatomy. This was a mixed class. Male and female students dissected in the same room. Such a state of matters was not satisfactory, and last winter's riot was the consequence. The male students seized the gates of the college, refused entrance for some time to their female fellow students, even assailed them with broadsides of snowballs, and in other ways, by deed as well as by word, testified their displeasure at their presence. Miss Jex-Blake exasperated at this treatment, sought to take revenge by publicly accusing Prof. Christison's assistant of being drunk on the morning of the riot. The libel suit of Craig *vs.* Jex-Blake was caused by this charge, and a verdict of ¼ d. damages and costs was given against the defendant. The costs amounted to about £900. During this session, the feeling of hostility against the measure was deepened among its opponents. Its supporters, however, drew together also, and both claimed that their opinions were gaining ground among those who had hitherto been undecided.

A medical sutdent in Edinburgh must, after matriculation, pass three examinations:—one between his second and third years, another between his third and fourth years, and the last at the end of his fourth year. The ladies, having already studied during two sessions, must therefore pass an examination before entering on the third, thus it was necessary that it should now be decided, whether or not, they should be allowed to be examined for degrees. The *Senatus Academicus* sought legal advice; and the opinion of eminent counsel was, that under existing regulations it was not lawful for such permission to be given them. The Dean of the Medical Faculty, therefore, notified the ladies that they could not be examined, and that the decision of the question had been reserved. The ladies now took legal advice, and the opinion of eminent counsel which they obtained was, that if not permitted to be examined they had good ground for action against the Dean. He, finding himself in a dilemma, wisely took that course which was safest for himself, and permitted the lady students to be examined. I need not say that they were not "plucked."

The old proverb says: "Out of the frying-pan into the fire," and it seemed to be true in this case. No sooner were the ladies safely through their first examination, than further progress was stopped, by the refusal of ten out of twelve professors to lecture to them. They had already taken four extramural classes and therefore, unless some special arrangements were made, they could not become *Medicinæ Doctores* of the University of Edinburgh. Their supporters, however, were not to be defeated in this way. They, forgetting their former concession, that the question of graduation had not been settled, argued that it was implied in the regulations and that, if the professors would not teach the ladies, substitutes ought to be appointed. They moreover offered to pay extra lecturers, to provide class rooms, and funds sufficient for all expenses. At a meeting of the General Council held on the 27th of October, one of them introduced a resolution, which said that the University Court was bound in honor to provide means by which those ladies who had already matriculated might complete their course. This motion, though supported by influental members of the council, was lost, and an amendment carried which left the decision of the matter to the lower courts. It now remained with the *Senatus* to express their opinion, and having at their last meeting, by a vote of fourteen to thirteen, resolved that "The Senate represent to the University Court the propriety of rescinding their resolution and regulation in reference to the admission of women to medical education in the university, without reference however to the rights of those ladies who have already entered upon a course of study in pursuance thereof," this resolution was sent up to the court. I hoped to be able to tell your readers in this letter the final decision of the University Court, and the fate of the lady students. It seems difficult however for the court to decide. They have already held two meetings, and have as yet come to no determination. The friends and enemies of the cause are waiting in anxious suspense. The latter have great fears, the former great hopes of the result.

Edinburgh, January 2, 1872. MAC.

P. S.—I may mention that the ladies yesterday gained admission to the Royal Infirmary or Edinburgh Hospital, a favorable resolution having been passed at a meeting of contributors. The resolution however is under protest.

[The foregoing interesting narrative is reprinted from the Dalhousie *Gazette*, of January 17th. We learn from *Nature* of January 11th, that the University Court has declined to give effect to the recommendation of the Senatus referred to above; but were careful not to indicate any opinion as to the claim of women to proceed to graduation, or as to the power of the university to confer medical degrees on women.—EDS.]

THE STAR OF BETHLEHEM.

A curious discussion has been going on in the London papers respecting the nature of the light, or rather the luminous appearance called "a star," which guided the wise men to Bethlehem, as narrated in the second chapter of St. Matthew's Gospel. The controversy is by no means a new one; indeed it has furnished a subject for speculation and philosophical investigation for eighteen hundred years; but it seems to have sprung up into vitality again just now, for some reason or other. To those who accept the Scriptural narrative literally, and believe in its plenary inspiration, such a discussion may seem irreverent, if not profane; yet it has been entered upon in all seriousness, and with the conviction that whatever throws light upon the true meaning of the phenomena recorded in the Bible, promotes reverence of that volume. In this, all peoples who accept the Holy Scriptures are interested; so are all Christians in ascertaining the exact date of the birth of the Saviour—and one of the objects of this controversy is to decide that. Those who are unfamiliar with such topics will perhaps be surprised at the number of explanations given respecting "The Star of Bethlehem." There are no fewer than ten hypotheses (there may be more, however,) and these are: 1. That it was literally a star out of the heavenly bodies, and selected for the purpose of guiding the wise men. 2. That it was a new star, created expressly. 3. That it was an old star, blazing forth into sudden brilliancy, as has happened more than once. 4. That it was one of the planets. 5. That it was a conjunction of the planets. 6. That it was a comet. 7. That it was a meteor. 8. That it was atmospheric luminosity. 9. That it was an angel. 10. That it was a celestial manifestation.

Ancient legends favor the last two, but modern science prefers to deal with the astronomical aspects of the question, and some of these are interesting enough. The idea of an actual star being employed in the manifestation is by it at once discarded. A star is an immense sun or centre of a planetary system, placed at an inconceivable distance from this globe, and to move it out of its orbit would produce changes of such magnitude in the system of the universe as to require a series of miracles, greater far than the star of Bethlehem. For this reason science rejects the literal interpretation. Was it then a sudden stelar eruption? similar to that witnessed by Tycho Brahe, in 1572, when a star appeared suddenly and swelled out to such extraordinary magnitude and brilliancy that it was visible at noon; this body maintained its splendor for seventeen months, then died out, and has never shown forth since? Another instance occured in 1604, a third in 1670, when the star faded out and revived several times during two years and then vanished; a fourth occured in 1866, when a star of the ninth magnitude rose within a few hours to the second magnitude, or about one hundred times its original brightness, and remained visible, though gradually diminishing, about four months. Some such phenomenon may have been witnessed by the wise men. It could not have been one of the planets, although the narrative says "the star went before them," which means only that it apparently did so, just as the sun is said to move, when, in reality, it remains still, and it is the earth which moves.

Was it a conjunction of planets? This was Kepler's theory, adopted by the learned chronologist, Dr. Idler, of Berlin, who calculated the places of the larger planets back to the time of the Nativity, to determine whether there was a conjunction at that time; he found ihat in the year 7 B. C. there was one between Jupiter and Saturn; but his calculations were subsequently revised by Professors Pritchard and Maskelyne, and found to be faulty, the two planets not having approached each other nearer than two lunar diameters. They must therefore have appeared as two stars, and this disposes of the conjunction theory. Was it, then, a comet? Many have supposed that it was. The Chinese astronomers, whose observations are noted for their accuracy, and extend back thousands of years, record that a bright comet did appear in the year 4 B. C., and remain visible seventy days during the vernal equinox. This is a curious fact and it corroborates the assertion made by most chronologers, that the Nativity occurred four years before the time usually assigned to it, so that we should now be in A. D. 1876 instead of 1872.

The comet theory is the most feasible of all. One authority asserts that "the star was a meteoric phenomenon, at a sufficient elevation in the atmosphere to be taken by the uneducated eye for a star, and not too high to serve as a guide; that its motion was slow enough to suit the rate of travelling common at that day; and that its appearance was not sufficiently conspicuous to attract the attention of any but those who were specially informed as to its object." Why not accept it as a simple miracle then? Surely such a would-be scientific explanation as this is ridiculous. No luminous meteor has ever yet been known to last for so long a time, and these bodies move with great velocity; the ascertained laws which govern their movements would have to be utterly perverted to make this theory fit, and an atmospheric Will-o'-the-Wisp would not answer the purpose any better. Of the ten theories alluded to, those numbered three and six have the best claims to a scientific basis, assuming that science has anything to do with the question. —*Philadelphia Ledger.*

— Troy proposes to institute a college for women at a cost of $500,000.

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SCIENTIFIC.

Occlusion of Hydrogen by Nickel.—M. Raoult finds the small cubes of nickel, such as we find in commerce, to be in an eminent degree porous, and to have, like palladium, the power of absorbing hydrogen. One cube of metal will occlude 165 times its volume of gas. It appears that once hammered, the metal loses its porosity and powers of absorption.

Solvent for Silk.—Mr. John Spiller has found that hydrochloric acid is an energetic solvent of silk, although it has little or no effect on wool or cotton. Adulreration of silk fabrics can, therefore, be readily detected by dropping a little of the acid on a scrap of the fabric. If it be pure silk a hole will be made; if impure, the threads which are left indicate the nature and the extent of the adulteration.

Hygienic Application of the Spectroscope.—The water used by the people of a crowded court, amongst whom several cases of typhoid fever had appeared, was drawn from a rather shallow well, and was highly charged with various unoxidized compounds of nitrogen. It was suspected that, from some defect, the contents of a public urinal obtained entrance to the well. The fact that the well-water contained seven times as much common salt as the normal water of the vicinity was some confirmation of the suspicion. Prof. Church obtained absolute proof by the followingm ethod: He introduced two grams of a lithium salt into the urinal, and, two hours later, was enabled readily to detect with the spectroscope the presence of lithium in a liter of the well water, which by previous examination had shown no trace of this substance.—*Quarterly Journal of Science.*

Pyro-Electricity of Crystals.—Hankel has examined over sixty varieties of topaz, particularly in reference to their pyro-electric properties, and has been led to the conclusion that pyro-electricity is unnecessarily correlated with hemimorphism, but is a general property of all crystals. In hemimorphic crystals the opposite extremities of the principal axis, being dissimilar, assume opposite polar conditions; while in crystals having the two ends physically similar, the same polar condition is found at each extremity. In hemimorphic crystals the distribution of electricity seems to depend on the asymmetry of the molecules, and is therefore not altered by an external change of form; while in those crystals which are not hemimorphic the distribution of electricity depends in a great degree on external form and arrangement, and may, therefore, be modified by a change of shape.

Heat Developed by Sound.—Dr. Warburg gives some notes upon this subject in the *Philosophical Magazine.* Weber had pointed out that the resistance of the air would not account for the loss of motion in vibrating bodies, and that some specific difference in their structure independent of their density must be the cause of the great diversity in this respect exhibited by various substances. The author then proceeds to remark that some of the vis-viva being therefore consumed in interior work it is natural to suppose that it is there converted into heat. The amount of motion so converted into heat will be greatest in those bodies which like lead, soonest cause the sound to fade away. The phenomenon of deadening produced when certain bodies are attached to sonorous ones, leads to a like conclusion. Thus a tube of lead attached to one of glass soon destroys the sound of the former, while a tube of steel or brass has very little effect. Hence it might be expected that more heat was produced in the lead than in the other material. Repeated experiments proved the truth of this conclusion with a variety of substances. * * The amount of heat in different bodies seemed to be in an inverse proportion to their rates of transmitting sonorous vibrations.—*Scientific Press.*

Red Blood-Corpuscles.—We find in the *American Naturalist* for February an abstract of an interesting paper on the physical structure of the red blood-corpuscle, by E. R. Lankester, published in the "Quarterly Journal of Microscopical Science." He says that this corpuscle has no outer coat distinct from the contents; at least, none visible under the highest powers of the microscope. No escape of viscid material follows the tearing or cutting of the corpuscle. As however, the portions thus detached assume a rounded form, there must be a pellicle or film on their exterior, similar to that which forms on a cooling mass of jelly. When pressed obliquely, they wrinkle, becoming smooth again when the pressure is removed. In the mammalia, the material composing the viscid mass is apparently homogeneous, but in the other vertebrata it contains a nucleus. This nucleus exists in perfectly fresh corpuscles and may be seen in the corpuscles of the frog even while circulating in the vessels. The forms of the corpuscle vary widely; that of the frog being different at different seasons of the year, and the ordinary biconcave disks of human-blood being more or less replaced, even in perfectly normal blood, by the "thorn-apple" and the "single" and "double watch-glass forms." The author confirms Roberts' discovery that vertebrate blood-corpuscles contain macula or spots, formed by a segregation of the matter composing the corpuscle, usually one in man, but often three or four in the frog. These are ordinarily imperceptible, but when treated with rosaniline nitrate they become deeply stained, and form sharp little pullations under the influence of tannin. Possibly they are due to a post-mortem change.

That the corpuscles are not in the condition simply of a moistened membrane is shown by the very curious observation that they will readily float out of the plasma into a drop of oil. In this liquid they tend to cohere in hexagonal forms. The action of external agents on the corpuscle was also studied. Stricker's statement that the granulation of the nucleus appears and disappears when the blood is exposed alternately to carbonic acid and to the air, the author finds to be due solely to the presence or absence of carbonic acid. The action of chloroform and other agents upon the corpuscles is not sufficiently marked to throw any light upon their physiological effects.

For the study of the structure of the blood-corpuscle it must be preserved unchanged. To do this, the author recommends osmic acid, as originally proposed by Max Schultze. A film of blood on a glass cover is exposed for three minutes to the vapor arising from a bottle of two per cent. solution of osmic acid; after which it may be immediately mounted in a nearly saturated solution of potassium acetate. "Every corpuscle thus becomes 'set' as it were, in its living form."

On the Phenomena of Comets.—The re-appearance of Encke's comet has awakened much speculation upon, and has led to much investigation into, cometary phenomena. We gave last week a notice of the researches of Young and Huggins upon Encke's comet; we now notice some of the speculations which have been advanced to account for some of the phenomena observed in it. Prof. Osborne Reynolds in a communication to the London *Chemical News*, suggests that the peculiar action observed through powerful telescopes, the action by which jets of vapor appear to issue from the cometary nucleus on the side towards the sun, is due to evaporation. Assuming that a limit exists to the pressure of a vaporous atmosphere of unlimited extent, the limit of temperature of a body is that which will evaporate the material of the body under this pressure. Moreover, since such a limit must increase very rapidly with the mass of the solid body, it must be much higher in the case of a planet than a comet, and hence a given material, such as water, for example, would evaporate at a much lower temperature on a comet than on a planet. This limit of temperature of any body, may be called the temperature of evaporation of that body.

Our earth must be well out of reach of this temperature of evaporation; since its equatorial temperature is less than the boiling point of its most volatile substance, water. Moreover, were the earth's atmosphere removed, evaporation would furnish another atmosphere of equal pressure; and were the earth's attraction for vapor but very slight, evaporation would continue till all the water was ice, and then all the heat it received from the sun would be expended in vapor. This condition of things, though purely imaginary as regards the earth, must exist in the case of a small body like a comet. There evaporation goes on without the presence of a liquid, until, as it approaches the sun, permanent evaporation takes place, ceasing only when the volatile matter is exhausted or when the comet moves away again from the sun. This exhaustion must in some cases take place; the comet of 1843, when nearest the sun received the heat of 47,000 suns, according to Sir J. Herschel. When without the range of permanent evaporation, this matter will be again, either wholly or partially, condensed. (This view explains the fact that a periodic comet makes less and less display each revolution). Thus a skin of the less volatile substances would form a crust over those more volatile, and the escaping vapor would issue in jets, which, like the jets of steam in Armstrong's hydro-electric machine, would be charged with electricity, either positive or negative; the comet itself being charged with electricity of the opposite kind. The discharges between this vapor and the nucleus would cause this vapor to become luminous, those portions being brightest which were nearest this nucleus. Again, as the atmosphere moved outward from the nucleus, there would be expansion and consequent condensation, and the outside of the coma would become sufficiently dense to reflect the direct solar rays; indeed, several such bands or envelopes, might thus be formed. A third source of light may be an electric action between the matter of the comet and that of space. Finally, the period of greatest display is not reached until the comet has passed its perihelion, its tail being visible much longer after this than before it. This the author accounts for by supposing the comet to be made up of hard and volatile substances, which, absorbing a large amount of heat, delay the maximum of vaporization until after the perihelion is passed. This evaporation would cause a corresponding electrical display, and increase the comet's brightness.

In relation to the tail, the author assumes Professor Norton's data—that the primary tail of Donati's comet might have been formed by matter emitted from the comet and repelled by the sun with a force equal to from 0·75 to 0·55 the attraction of the sun for ordinary matter, suggesting that this force is either electrical or magnetic—and says: "if, for some cause or other, the sun repelled negative electricity, and there were two streams of electrified matter leaving the comet, charged in the ratio of 0·75 to 0·55, these would be repelled in the ratio he wants." Since Professor Norton does not suggests any explanation of the straight tails seen with most comets as primary or secondary tails, the author maintains that the comet causes the gaseous matter of space to be electrically illuminated in the form of a brush.

In the same number of the *Chemical News*, Prof. W. Stanley Jevons offers an explanation of the retardation which Encke's comet is now known to suffer. He views the hypothesis of a resisting medium as purely imaginary, and supposes, as is maintained by several authorities, that a comet must experience considerable electrical disturbance on approaching the sun. This electricity is produced at the expense of the comet's motion, and if converted into heat and radiation, is so much motive power lost. As the light of the aurora represents an almost infinitesimal fraction of the earth's energy, so may not the light of Encke's comet represent a far larger fraction of its energy? "Encke's comet," he says, "ought not to be quoted as evidence of the existence of such a [retarding] medium, until electrical disturbance is shown by calculation to be insufficient to account for the observed diminution of period."

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, FEB. 17, 1872.

THE committee of twenty-five appointed by the meeting held some time since at Cooper Institute, New York, in the interest of the Chinese Indemnity Fund, have prepared a memorial and it was presented to Congress last week. The memorial rehearses the facts in reference to the fund, and asks that the necessary action may be taken, to secure the object desired, viz., to found a college in China. It was ordered to be printed but we fear that unless those who have the matter in charge follow it up vigorously, it will not receive the attention which the subject deserves.

THE Board of Trust of the Central University, that is to be somewhere in the South West, to which we referred last week, has met and organized, by electing Hon. E. H. East, as president; D. C. Kelley, Secretary; and Rev. A. S. P. Green, D. D., Treasurer. Jordon Stokes, R. J. Morgan, R. A. Young, and D. T. Reynolds, together with the officers of the Board as ex-officio members, were constituted an executive committee. This committee were instructed to prepare a charter and procure the incorporation of the university, and also to write an address expressing its general plan and purposes, and publish the same with the proceedings of the Convention. After passing a resolve to the effect that the appointing of agents to coöperate with the Treasurer in collecting funds should be deferred until another meeting; and another, that the the executive committee prepare a code of by-laws, etc., for the control of the Board of Trust, the Board adjourned to meet at Nashville, May 8th, 1872, at 9½ o'clock in the forenoon.

THE question of the taxation of college property came up recently in Cambridge, Mass., and was the subject of a hearing before the Mayor. It seems that the matter has been agitated for some time by the citizens and last year a petition was presented to the city council requesting the Legislature to pass an act relieving the city from the burden. It was upon this petition that the hearing was had. City Solicitor Parker and Alderman Whitney presented the case for the city, and President Eliot appeared for Harvard University. On the part of the city it was represented that Harvard owned some seventy acres of the best land within the city limits, and about one thirty-fifth of the available territory of Cambridge. The exemption of this property from taxation was felt to be a heavy burden, and after mature deliberation by the city council, it had been decided to attempt to remove it. In answer to this President Eliot claimed that the presence of Harvard caused an increased value to other property in that part of the city; and brought a large amount of personal property along with it; that the improved quality of the population was a consideration; that a large amount of money was spent by those connected with the University; that the public grounds of the University are a great advantage to the city; and that the city is largely indebted to the University for what she is to-day. After a few remarks from Ex-Mayor Saunders, agreeing in the main with those of President Eliot, the hearing was ended. Whether the matter has been taken before the Legislature or not, has not yet transpired. We shall look with interest for the decision of the question.

THE NATIONAL EDUCATION FUND.

For some time past Congress has been engaged upon a bill whose object is to apply the proceeds of the public lands to the education of the inhabitants, of the different States and Territories. The bill as first introduced has been several times amended, and has caused earnest disscusion. It was finally passed by the House on Thursday, February 8th, by a vote of 115 to 98, and goes to the Senate for their consideration. The provisions of the bill stripped of their legal form and stated as briefly as possible are as follows: The net proceeds of the public lands are to be devoted to the education of the people. But this bill does not prevent Congress from disposing of the public lands for any purpose it may choose, such as in homesteads, or bounty lands to soldiers, etc., the only point being that whatever money comes into the treasury from the public lands, be it more or less, shall be devoted to the education of the people. The net proceeds then from the disposal of the public lands, whatever amount of these proceeds there may be, which amount is to be certified to by the secretary of the Interior, is to be divided at the end of each fiscal year into two equal parts. One of these parts is to be invested in five per cent bonds of the United States, and is to constitute a perpetual fund in the United States Treasury, to be known as the "National Educational Fund." The yearly additions to this fund, and its whole amount on that day, together with the interest due at the time of the last previous certifications, are to be certified to by the Secretary of the Treasury on the 31st of July of each year. The other part of the proceeds from the public lands, together with the yearly income from the Educational Fund, is to be disbursed each year by the Commissioner of Education under the direction of the Secretary of the Interior, to the several States and Territories including the District of Columbia. The basis of this distribution is to be the population between the ages of 4 and 21, the population to be reckoned from the last preceeding general census of the United States; but it is provided, however, that for the first ten years the distribution shall be according to the ratio of the illiteracy of the population of the several States and Territories.

So far the Fund and its distribution. What now is required of the States, Territories, etc.? In order to receive its share in the first distribution, each State, Territory, etc., must, before the first of January 1873, or within two months after the meeting of its legislature following this first of January, engage by law that it will provide for the free education of all its children between the ages of 6 and 16, and will apply the money received in accordance with its design. The continuance of the reception by any State, Territory, etc., of its share of the fund depends on three things, viz., that it educate its children as just mentioned; that it use the money properly; and that it make an annual report embodying full statistics in reference to schools, scholars, teachers, etc., together with the amount appropriated by the legislature for the maintainance of free schools. The States, Territories, etc., having received their share of the fund are to disburse it to the several school districts within the State, etc., The conditions on which this distribution takes place are: Each school district must have maintained during the previous year at least three months free school, for all the children between the ages of 6 and 16, and must apply the amount apportioned to the payment of teachers wages. The basis of apportionment to the several school districts is left optional with each State, Territory, etc.

The remaining sections of the bill provide for the disposition of any States' share of the fund, which for any cause that State may not receive; for an annual report from each State, etc., of the condition of the funds in its hands; for penalties in case of misapplication by any State, etc., of the funds received; and designate the Circuit Court of the United States as having jurisdiction over all disputes which may arise.

The friends of the bill, and of education everywhere have good reason to rejoice in its progress thus far, and we can but hope that the Senate will give it early and earnest attention.

PROFESSOR MAYER'S LECTURE.

The last of the course of Scientific Lectures before the Yale Scientific Club of this city, was delivered in Music Hall, Wednesday evening last, by Prof. Alfred M. Mayer, Ph.D., of the Stevens Institute of Technology, upon "Magnetism." In opening his lecture, Professor Mayer said that he found himself embarrassed by the grandeur of the generalizations of his subject and confused by the multiplicity of its facts, and he had therefore concluded to select a single prominent truth and endeavor to clearly and forcibly present it. This mode of procedure seemed necessary when we consider that over one hundred men of the highest ability as original investigators, have toiled on an average of ten years each at the problems of Magnetism, and the facts which they have accumulated are therefore immense. He would consequently take as his text a single sentence, given to the world over 270 years ago, by Dr. William Gilbert, Physician to Queen Elizabeth. This sentence is "The Earth itself is a great Magnet," and the purpose of the lecture would be to demonstrate its truth. But the shortness of the time usually allotted to a public lecture would not permit a discussion of many of those curious properties of this huge lode-stone, which are so interesting to investigators—such as the position of its poles, its average strength, and those mysterious variations of its force which seem so closely related to emanations from the sun.

The earth then, is a great magnet. But first, what is a magnet? I hold one in my hand, said the lecturer, a piece of lode-stone, but how shall it be defined? A definition is the resolution of a complex idea into its simple elements, but in this case the complexity of the idea, conveyed by the term magnet, so increases with our knowledge of its properties, that definition seems almost impossible. It therefore, will be necessary to explain it experimentally.

As a preliminary to this, the vertical lantern—by means of which the object to be thrown on the screen, is placed horizontally instead of vertically as in the ordinary lantern for projections—was clearly described. One of the properties of a magnet—its power of attracting iron—was then shown by placing in the lantern a glass plate upon which tacks had been scattered and drawing the lode-stone over them. The clinging of the tacks to the lode-stone and their movement to one side of the plate in obedience to its power were plainly visible upon the screen. The power of the lode-stone, or magnet to impart magnetism to soft iron temporarily, and to steel permanently, was then shown in a similar manner iron filings being substituted for tacks. The great magnet of the Stevens Institute of Technology, which was on the stage, and whose lifting power has been estimated at about four tons, was then described, and its power illustrated by throwing on it 300 pounds of large iron spikes which firmly attached themselves to it, giving it a huge bristling appearance. Before proceeding to show that the earth possessed the power of imparting magnetism to soft iron and steel, a compass needle was projected on the screen and the fact that a magnet, when directed toward the center of a needle, causes it to rotate in obedience to the laws of magnetic attraction and repulsion, and that a piece of iron which is not a magnet has no such power, was shown and the principle of polarity described. A bar of iron was then taken and shown by the needle to be devoid of polarity or in other words not a magnet; it was then pointed towards the north pole of the great magnet, and struck with a hammer; it now exhibited the properties of a magnet, showing polarity and causing the needle to rotate. Another bar was treated in exactly the same manner except that it was pointed

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toward the magnetic pole of the earth, and it exhibited precisely similar results. This was regarded as one proof that the earth is a magnet as had been asserted.

Another proof may be drawn from the phenomena of magnetic induction. To show that a magnet induces or creates magnetism in a magnetic substance, not touching it, a bar of iron which was not a magnet was held some distance from the great magnet, and it sustained some of the spikes before alluded to. The same was shown to be true when a person stood between one pole of the magnet and the bar, or when a short bar of iron was held above one of the poles, each bar then sustained several large iron rings. The same inductive power was shown on the screen by means of the vertical lantern, iron filings, a piece of soft iron and a piece of lode-stone which did not touch the iron. But if the earth is a magnet it should possess the same power. That it does possess inductive power was shown by placing an iron bar, horizontally, in the magnetic meridian with one end quite close to the center of the lantern-needle—this needle remained at rest; on slowly raising the bar until it was in the direction of the lines (stretched above the stage) leading to the N. magnetic pole of the earth, when the needle rotated, turning its S. end towards the lower end of the raised bar.

But, said the lecturer, our experiments thus far have been somewhat crude. Let us proceed to some that require more caution, and more delicacy of touch and perception. He then proceeded to show upon the screen the lines of magnetic force, and to prove that the magnetic power seemed to lie most strongly in the ends of the magnet. A glass plate covered with iron filings, was introduced into the lantern and a small magnet laid upon them. On tapping the plate, the filings collected at the ends of the magnet. These were then removed from the lantern and the magnet placed under another plate covered with filings. Upon tapping as before the filings assumed the form of the magnetic curves, which were explained to be the resultants of the magnetic force emanating from it. The peculiarity that a tiny magnetic needle, suspended by a single fibre of silk will always place itself in the direction of one of these lines when brought within the influence of the magnetic force was then shown. Now in order to show that the earth possessed like properties, a magnetic disc of steel had been prepared which corresponded to a section of the earth passing through its two magnetic poles. That is to say, if a section of the earth could be made through its magnetic poles, it would be on a very large scale, what this magnetic disc is on a very small one. If this disc, then, exhibit the properties that were found true in case of the small straight magnet we would be at liberty to conclude, again, that the earth is a magnet. The disc was placed in the lantern under a plate of glass covered with iron filings and the same phenomena of distribution of the filings in curves, and the power of the disc over the tiny needle, as had been exhibited in the case of the straight magnet were plainly visible on the screen. The power of the earth over a magnetic needle was also shown by an explanation of the subject of the "dip." The method of fixing the magnetic curves by photography was also described. The remarkable variation of the needle in declination was then shown by this novel experiment. A gyroscope formed of a ring rotating about an axis hung through its center, had this axis magnetized. The axis with its ring was now placed in a line with the direction of the needle on the lantern and the gyroscope set in motion; as its magnetized axis slowly rotated around a vertical line, the magnetic needle swayed to and fro in accurate correspondence with its motions.

But what peculiar signification is there to these curves, these lines of magnetic force? We have seen that a magnetic needle carried along one of these lines, always points in its direction. But they have more signification than this. In 1831, Faraday made the most remarkable discovery that if a closed loop of wire be passed along any of these curves, without cutting them, nothing would happen, but that when the wire moved across any of them a current of electricity was generated in the wire which continued to flow as long as the motion continued. Also that when the wire is moved in one direction the current flows in one direction, and when the wire moves in an opposite direction the current flows in an opposite direction. This wonderful discovery is one of the most potent facts in the study of magnetism, and for forty years philosophers have founded their researches upon it. The lecturer then proceeded to describe an exceedingly ingenious new galvanometer which he has recently invented. This was attached to the vertical lantern and was so arranged that the needle of the galvanometer was continually in view upon the screen, and its slightest variation clearly visible; while at the same time its vibrations could be almost instantly overcome and the needle reduced to a state of rest. By means of this delicate apparatus the last and seemingly most conclusive proof of the earth's magnetism was accomplished. A coil of wire about three feet in diameter consisting of a number of turns was connected by wires with the galvanometer before described. With this coil of wire in his hands, the lecturer so moved near the great magnet as to cut some of the magnetic curves emanating from it. As a consequence the needle of the galvanometer was seen to rotale in one direction upon the screen. After it had come again to rest the lecturer moved in the opposite direction, cutting the lines of force as before and the needle answered to the movement by rotating in the opposite direction. Thus it was plainly evident that electricity had been developed by cutting the lines of force sent out by the great magnet. If now the earth is a magnet the same phenomena ought to take place, when its lines of force, if it has any, are cut. The coil was made to cut across these lines in the following manner—the plane of the coil was placed at right-angles to the lines of the earth's magnetic force indicated by cords stretched above the stage, and the coil was then rotated around an axis which was in the plane of the magnetic meridian. The needle of the galvanometer instantly responded to this motion of rotation. The coil was now strapped to a large ring and rotated by means of a handle—a continuous electric current was thus obtained from the earth's magnetism with which the lecturer actually telegraphed before the audience.

This lecture was remarkable from the extreme delicacy of the experiments, some of which literally "hung upon threads;" but the lecturer had them under such complete control that they were executed with an apparent ease which did not indicate to the unscientific the skill which their adjustment and successful performance necessitated. The course which this lecture closed, has been a success throughout and the members of the Yale Scientific Club well merit the thanks of the community for their efforts in its behalf.

LITERARY.

Messrs. Charles Scribner & Co., announce to be issued in February, a second series of "Froude's Short Studies." It is to be a popular edition in cloth and will be furnished at $1.50. . . . . Messrs. J. R. Osgood & Co., will issue to-day, Mr. J. W. DeForest's latest novel, "Kate Beaumont. . . . . Messrs. G. P. Putnam & Sons, have undertaken to introduce to the American reading public the writings of the Swedish author, August Blanche. They are to be translated and edited by the translators of the Schwartz novels. Some of the comedies written by Blanche are said to be the best that Sweden has ever produced in this branch. The first of the series of his works, to be published by the Putnams is entitled "The Bandit" and will be issued in February. The same firm are to publish next month the Lowell lectures on "Instinct," by Prof. Chadbourne, of Williams College. They are said to be both valuable and interesting.

Falstaff and His Companions.*—We are not as fond of tragedy as some; few are so fond of comedy. We prefer Falstaff to Hamlet, and the Merry Wives of Windsor to King Lear or Macbeth. Indeed, our preference for the fat knight is as decided as was his for the merry wives. Represented by Hackett, the best personator of the character, or even by Burton or Logan, Falstaff was the most marvelous exhibition of the stage. Hackett in this great character was the ninth wonder of world; the character itself was the eighth, and it required the genius of Shakespeare for its conception.

The work before us represents Falstaff and his companions in silhouette, which our readers will understand to be a representation of the outlines of an object filled in with a black color. It is the old familiar mode of taking a profile, before miniature painting became common, or the Daguerreotype was invented. These outline figures, or figures in black, are among the best ever given to the public in the form of a book. Of course the pictures are wholly imaginary, but they correspond happily with the best of the stage representations. Whoever has seen the fat knight and his companions properly personated, will readily recognize each character, and can not fail to be charmed by the exquisite delineation.

The companions of Falstaff include all the characters of any moment who figure with him in the plays of King Henry IV., King Henry V., and the Merry Wives of Windsor—over thirty in all, and no two bearing to each other the slightest resemblance. Some of them are represented more than once, as Pistol and Mistress Quickly, but each time under different circumstances. Falstaff is presented three times, once in conversation with his page, once in the act of kissing Mrs. Ford's hand, and finally as a Windsor stag, "and the fattest, I think, i'th' forest." In each of these conditions the representation is as perfect as the poet's own conception. It is a book full of pleasant pictures, which any observer will find amusing, while to the student of Shakespeare, they will be a new source of delight and admiration.

* *Falstaff and his Companions.*—Twenty-one illustrations in Silhouette. By Paul Konewka. With an introduction by Hermann Kurz. Translated by Prof. C. C. Shackford, Boston: Roberts Brothers. 1872.

The Home Theatre.*—To this book there is no preface or introduction—nothing to show the object for which it was composed and published. It is put forth without a word from either author or publisher, to stand or fall upon its merits. It is an American reprint of an English book, printed by W. Clowes and Sons, Stamford street and Charing Cross, London. But there is nothing to show that the author has written any other works, though it is apparent on every page that the one before us is not a first effort. Indeed, it bears abundant evidence that it is from a gifted pen, and one that is also practiced.

The title of the work is an indication of its character. It is dramatic in construction, and the pieces are designed for private exhibition. Some of them, perhaps all of them, might be so represented as to afford amusement, and possibly instruction. Some of the characters are excedingly well drawn, and all of them with distinctive and proper characteristics. The language varies with the character, and is in every instance appropriate, even suggestive. If properly represented, these pieces ought to become popular in private or home theatres, as they contain nothing to shock the most sensitive nature. Since it has become the fashion to have private theatrical exhibitions, a book of this character was very much needed; and this one, for any thing we can see, is very well adapted to meet the necessity. Indeed, we can perceive no good reason why, with suitable representation, these pieces should not become popular on the public stage as well, especially the shorter ones as after pieces to lessen the gloom of tragedy.

* *The Home Theatre.* By Mary Healy, Boston: Roberts Brothers. 1872.

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Without reference to exhibition, either private or public, these little dramas are delightful reading, and can not fail to entertain any one who can appreciate a dramatic delineation of character. The principal piece, "The Lost Game," is a charming little romance, and in the narrative form would not fail to be immensely popular. By such as find pleasure in the perusal of the drama, it will be regarded as a production of very considerable interest, and of a high degree of excellence. The other pieces, though of less pretension, are constructed with similar care, and ought to be proportionately popular. Besides, in each piece there is a moral lesson, not thrust forth offensively, and yet not so concealed as to escape observation. It is a part of the play, and one of the best parts at that, as it serves to show us, in an amusing, sometimes in a ludicrous form, our own weaknesses or short comings, without the infliction of the unpleasant words of Nathan to David—"Thou art the man." Altogether, we regard it as a valuable accession to the popular literature of the day.

The Country of the Dwarfs.*—The written works of this author, as will be seen by reference to the title page, pertain to the peoples and countries of the equatorial regions of Africa.. The interest of his books consists chiefly in the novelty of the facts related of the inhabiants, the adventures of the author, and the descriptions of the chimpanzee, gorilla, and other curious creatures. The first of these volumes was a great surprise to the reading public; it contained many things not only new and strange, but such as never had been dreamed of in Horatio's philosophy. Of course the volumes that succeeded, though filled with facts as new and startling in their character, failed to produce a corresponding astonishment. Yet they were well received, and their contents eagerly devoured, specially by the young, who never tire of the tales of the great traveller.

The work before us differs from the others mentioned, mainly in the facts that are narrated. Many of the people introduced we have become acquainted with in his former works—persons of no especial interest, and scarcely worthy of a second mention. The personal adventures are similar to some of those previously described, but lacking the novelty of these, are not quite so interesting. The hunt, the chase, and the capture of the gorilla, differ in no important particular from those mentioned in his older works. Figuratively speaking, it is the same tune, pitched in a different key, or played on a different string, with slight variations. Yet with all the resemblances, some of which are so very manifest, there is enough that is new to interest a very great many of his numerous readers. This is noticeably true of the younger people, for whose entertainment more especially these volumes were designed.

The object of the author in producing the present volume, is to make his readers in some measure acquainted with a people of dwarfish proportions, the very existence of whom has hitherto been questioned by geographers. They are represented as dwelling under the Equator, in little huts, grouped together in villages, which are built like old Palmyra, in the wilderness. The author gives following descriptions of these huts:

"The length of each house was about that of a man, and the height was just enough to keep the head of a man from touching the roof when he was seated. The materials used in the building were the branches of trees bent in form of a bow, the ends put into the ground and the middle branches being the highest. The shape of each house was very much like that of an orange cut in two. The frame-work was covered with large leaves, and there were little doors which did not seem to be more than eighteen inches high, and about twelve or eighteen inches broad. Even the Dwarfs must have lain almost flat on the ground in order to pass through."

This is a description of the outward appearance of the dwelling-houses of the drawfs. The author also gives a description of the interior of one of these dwellings, which, notwithstanding the smallness of the doorway, he managed to enter. He says:

"I found there two beds, which were as curious as every thing else about the premises. Three or four sticks on each side of the hut were the beds. Each bed was about eight inches in width. One bed was for the wife, and the other for the husband. A little piece of wood on each bed made the pillows. It was almost pitch dark inside, the only light coming from the opening or door. Between the two beds were the remains of a fire, judging by the ashes and the pieces of burnt wood."

These huts were inhabited, the author says, by a nation of dwarfs, of whose personal appearance he gives the following description;

"They had prominent cheek-bones, and were yellow, their faces being exactly of the same color as the chimpanzee; the palms of their hands were almost as white as those of white people; they seemed well-proportioned, but their eyes had an untamable wildness that struck me at once; they had thick lips and flat noses, like the negroes; their foreheads were low and narrow, and their cheek-bones prominent; and their hair, which grew in little, short tufts, was black, with a reddish tinge."

In another place, the "author describes these people as of singular appearance, the larger number of them being of a dirty yellow color. A few of them were not more than four feet in height; others were from four feet two inches to four feet seven inches in height." And he adds that "if they were short in size they were stoutly built; like the chimpanzee, they had big, broad chests, and, though their legs were small, they were muscular and strong." Among them were "gray-headed men, and gray-headed, wrinkled old women," whom he describes as "very hideous." "Some had gray, others hazel eyes, while the eyes of a few were black."

Is there a nation of dwarfs in Africa? It is not the first time the question has been asked? Ages ago Homer and Herodotus, Strabo and Pomponius Mela, and other distinguished writers, made mention of a people residing somewhere in Africa, who were of dwarfish proportions. Homer speaks of their country as the land of the Pigmies, and Herodotus describes them as a nation of Dwarfs, and locates them on the head waters of the Nile. But nobody ever believed these stories, perhaps because these distinguished writers had never seen the people of whom they wrote. In this respect, the writer of this book claims a very great advantage; he has visited their country, and entered their village, and dwelt in their huts, and seen the little people themselves, and conversed with them, and become familiar with their habits and customs, and so forth, and so forth. Now, whether or not the reader believes Du Chaillu in preference to Homer and Herodotus, we can assure him that the book will be found one of very decided interest. It is put forth as containing nothing but the truth, and we believe that is generally so received. As there is nothing improbable in the narrative, it may be regarded as a verification of the hitherto doubted story of the earliest Greek poet and historian.

East and West Poems.*—We have read this volume with care, and witheld our remarks until now, in the hope that time and reflection might discover poetical beauties not apparent upon a first perusal. It was our desire to find something in this volume, to justify the belief that his liberal publishers would have it in their power to give the public some adequate return for the great sum they are to pay him annually for his services. This is not a matter that concerns the publishers alone; the readers of their books and periodicals have an interest that ought not to be overlooked, for it is they who support author and publishers, and they are entitled to the best productions which money can procure.

But neither time nor reflection has enabled us to discover the beauties, if there be any in these poems; and as for our desire, it is very far from being gratified. The volume before us is not poetry in the highest sense of the term, or in any sense except that of clever doggerel. We regret having to say such a thing of any man's verses, and especially of one who has achieved so much reputation. Yet we know of no reason why we should add our voice to the fulsome adulation, which has been heaped from all quarters upon the undeserving head of the now famous author of "Plain Language from Truthful James," popularly known as the Heathen Chinee. For, whatever else the author may have written, or of whatever character, it was this poem which gave him notoriety, and it is as the author of this poem that he is known to the public, and will be, if his fame ever travels so far, to posterity. This poem, if indeed it be entitled to such a designation, is too well known to bear reputation.

The volume before us was looked for with unusual anticipations, by such at least as had enjoyed the ecstacy of delight in the perusal of "Plain Language." What the contents would be no one seemed to know, except that the volume would contain the "Aspiring Miss De Laine," "A Chemical Narrative," read by the author at the last Commencement of Harvard University. It will be remembered that this poem was a great surprise to all listened to its perusal, and it has been quite as great surprise to all who have read it in print. Not that it is entirely devoid of any merit, for it has some of a certain sort, but that it was in every respect unfitted for the occasion where it was first produced. Fancy the sages and savants of Harvard, and the numerous friends of the institution, with their cultivated wives and daughters, listening with rapture of delight to the following rhymes:

"Round about go the dancers; in circles they fly;
Trip, trip, go their feet as their skirts eddy by;
And swifter and higher, both somewhat too plain,
Whisks the fair circumvolving Miss Addie De Laine.
Taglioni and Cerito well might have pined
For the vigor and ease that her movements combined;
E'en Rigelboche never flung higher her robe
In the naughtiest city that's known on the globe.
'Twas amazing, 'twas scandalous: lost in surprise,
Some opened their mouths, and a few shut their eyes."

This is by odds the best stanza in the poem, though not the best in the volume, which contains thirty-four pieces. Two of these, the first two, are readable and creditable, though by no means remarkable—"A Greyport Legend" and "A Newport Romance." As specimens of the contents of this volume, they have been published and republished in the periodicals and newspapers of this country, until they must be familiar to nearly every reader. In this way they have led many to form a higher estimate of the contents of this volume, than any thing else in it would reasonably justify. They are, in fact, the only productions of any real merit, and that of no very high order. The other pieces are—well, here is a verse from "In the Mission Garden," which will save us the expression of an opinion—

"Old, Señor, old! just so old as the Mission.
For see that pear-tree? How old you think, Señor?
Fifteen year? Twenty? Ah, Señor, just *Fifty*!
Gone since I planted him!"

Lest it may be supposed that this is not a fair sample of the poem from which it is quoted, we may be excused for selecting another:

"Eh, you knew *her*? No? Ah? it is a story;
But I speak not, like Pachita, the English:
So? If I try, you will sit here beside me,
And shall not laugh, eh?"

It may be that some of our readers will fail to discover the beauties of these stanzus. That they are not very obvious must be admitted, but who will venture to assert that they are not somewhere in concealment? How can an author acquire so much popularity if his writings are not full of beauties? Possibly it is in some other poem that these rare qualities are to be found, perhaps "The Stage Driver's Story." The following are the first and last stanzas, a fair specimen of the whole:

"It was the stage-drivers story, as he
stood with his back to the wheelers,
Quietly flecking his whip, and turning his
quid of tobacco;

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* *The Country of the Dwarfs.* By Paul du Chaillu, author of "Adventures and Explorations in Equatorial Africa," "A Journey to Ashango Land," "Stories of the Gorilla Country," "Wild Life under the Equator." and "My Apingi Kingdom," with numerous engravings. New York: Harpers & Brothers, Publishers, Franklin Square. 1872.

* *East and West Poems.* By Bret Harte. Boston: James R Osgood & Company, (late Ticknor & Fields, and Fields, Osgood & Co.) 1872.

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While on the dusty road, and blent with the
rays of the moonlight,
We saw the long curl of his lash and
the juice of his tobacco descending.
* * * * * * *
This is my story, sir ; a trifle, indeed, I
assure you.
Much more, perchance, might be said ; but
I hold him, of all men, most tighlly
Who swerves from the truth in his tale—No,
thank you—Well, since you *are* pressing,
Perhaps I don't care if I do : you may
give me the same, Jim,—no sugar."

BOOKS RECEIVED.

New Census and Patent Laws. New York : Munn & Co., 1871. 75 cts.

In Camp and Field. By Benj. F. Taylor. New York: D. Appleton & Co., 1872.

Christian Theology and Modern Scepticism. By the Duke of Somerset. New York : D. Appleton & Co., 1872.

Barnaby Rudge and Edwin Drood. By Charles Dickens. New York : D. Appleton & Co., 1872. 75 cts.

Lehrbuch der Englischen Spraehe. By Hermann D. Wrage, A.M. New York : D. Appleton & Co., 1872.

Recollections of Past Life. By Sir Henry Holland, Bart. New York : D. Appleton & Co., 1872.

The Abominations of Modern Society. By T. De Witt Talmadge. New York : Adams, Victor & Co., 1872.

Gaudeamus. Translated from the German by Charles G. Leland. Boston : J. R. Osgood & Co., 1872. $1.50.

Bits of Travel. By H. H. Boston : J. R. Osgood & Co., 1872. $1.50.

Mistress and Maid. By the author of John Halifax, Gentleman. New York : Harper & Brothers, 1872. $1.50.

King Henry VIII. New York : Harper & Brothers, 1872.

Patty. A Novel. By Katharine S. Macquoid. New York : Harper & Brothers, 1872. 50 cts.

The Land of Desolation. By Dr. I. I. Hayes. New York. Harper & Brothers, 1872.

Schools and Schoolmasters. By Charles Dickens. New York : A. S. Barnes & Co., 1872. $1.25.

PAMPHLETS RECEIVED.

Christ and His Church ; D. Appleton & Co. ; 25 cts. Proceedings of the American Philological Association. Proceedings of the New England Historic Genealogical Society. The Educational Year Book, for 1872. Report of the Commissioner of Education, for 1871. Report of the Superintendant of Common Schools of Pennsylvania. Electricity in the Treatment of Diseases of the Skin ; by George M. Beard, M.D. Catalogues of Hobart College, Cornell College, Freehold Young Ladies Seminary, Massachusetts Institute of Technology, Connecticut State Normal School, University of California, University of Michigan, and North Western Christian University.

COLLEGE RECORD.

Chicago University, (Chicago, Ill.)—The buildings of this institution escaped the great fire, but that disaster severely crippled it in other directions. The fire has left the University in very serious financial straits. Most of the gentlemen upon whom the University, and especially the Observatory, was dependent, are so reduced in circumstances as to be unable to meet their engagements. The consequence is that the resources of the University are suddenly and greatly abridged. In fact, its income, aside from its tuition fees, is entirely cut off. The Observatory is the first department to feel the paralysis. It is feared the director, Prof. Truman H. Safford, will be obliged to leave his post through want of support. The disastsr comes at a time when the now impoverished and helpless patrons of the University were combining in an effort to remove the remnant of a debt which remained upon its buildings, and to raise such endowments as would enable it to prosecute its proper work unhindered and unharrassed. When it was founded, about fifteen years ago, by the gift of the ground by the late Senator Stephen A. Douglas, a few public spirited gentlemen rallied around it, and under their self-sacrificing care is has been housed in a commodious and elegant although unfinished building, at a cost, including observatory, telescope, etc., of about $200,000, and now has in all departments of study preparatory, classical, scientific, and law, twelve professors, and about 250 students. Aid is asked in this emergency from any who may be well inclined toward the enterprise.

Evanston College for Ladies, (Evanston, Ill.)—At the last regular commencement the Northwestern Female College at Evanston, Ill., was formally transferred to the control of the above named institution. The design of the latter was to furnish arrangements for boarding young ladies and for teaching branches which were not in the regular course of the Northwestern University at Evanston, which as is well-known is now open to women. A board of lady trustees was formed, a charter procured and the following plans decided upon : 1. The erection and furnishing of a commodious building where young ladies who are preparing for and engaged in the University studies might enjoy the advantages of a Christian home and, 2. the establishment of a supplementary course of instruction to that furnished by the Northwestern University, and which should embrace a department of Modern Languages ; one of Fine Arts, one of Music ; one of Health and one of Home and Industrial Pursuits. These plans had in a measure been carried out, the building had been commenced, a course of study arranged and the old Northwestern Female College rented in which to begin work. Subscription had also been obtained, enough in value to cover two-thirds of the estimated cost of the enterprise. All this had been done when the great Chicago fire came and cut off all revenue. The subscriptions were rendered worthless from the losses of the subscribers. In this emergency the Board of Trustees appeal to the public for aid and request that communication and remittances be sent to Mr. Jennie F. Willing, Rockford, Ill.

Boston University, (Boston Mass)—There has been some confusion in reference to this institution arising from its recent frequent mention by the newspapers in speaking of the bequests to it in the will of the late Isaac Rich, Esq. Some have regarded the Boston Theological Seminary as the institution referred, to while others, and more correctly, have considered the University as a new one of which the Theological Seminary was a part. The following account seems to make the matter clear: In 1869 the charter of Boston University was obtained by Isaac Rich, Lee Claflin, and Jacob Sleeper, Wm. Claflin signing the enactment as Governor. These three corporators organized under the charter, and elected as trustees. Wm. Claflin, D. Patten, Pliny Nickerson, J. H. Twombly, H. O. Houghton, J. B. Thomas, W. F. Warren, L. W. Pond, Geo. F. Gavitt, Leonard Whitney, Jr., ———Lincoln, F. A. Perry, and G. Haven. Isaac Rich was chosen President. In 1871, the Theological Seminary was consolidated in the University by act of the Legislature, and became the School of Theology of Boston University. Edwin H. Johnson and W. R. Clark were added, after this consolidation, from the Seminary Board to the University Board.

The Theological Department is as yet the only one organized, although at the time of Mr. Rich's death arrangements were being made for opening the School of Law. It is expected that these arrangements will be only temporarily interrupted by this misfortune and that other departments will soon follow. The design embraces a University in the fullest sense of the word,—professional and post-graduate schools surrounding a college proper as a center. Aspinwall Hill, Brookline, is spoken of as the probable site of the new buildings. It is believed that the terms of Mr. Rich's will, if carried out, will give the new Universitiy a larger fund to start with than any New England college except Harvard.

State Agricultural College, (Manhattan, Kansas.)—This institution started in 1863, without money and with an unproductive grant of 83,000 acres of land. This state loaned the college $30,000 for teacher's salaries, which has since been cancelled by the legislature ; and about one-half of the land has been sold, from which the college realized about $180,000. Last year the state gave $2,700 for improvements, and so modified the law that the income of the college can be used for general improvements as well as for teacher's salaries. Within the year past most of the permanent interest fund of the college has been invested in school district bonds, thereby doubling the income. Also, with the fund appropriated for that purpose, and the bonds voted by Manhattan township, 155 acres of valuable land between the college buildings and Manhattan, and 160 acres of bottom land on the creek south of the college have been acquired. This makes the college farm consist of 415 acres, 315 of which are under cultivation. Thirty students have performed regular labor on the farm ; and considerable attention has been given to horticultural matters, quite a number of students, of both sexes, being now engaged in that department. During the last year the course of study has been entirely remodeled. Provision is being made for the four distinct courses of instruction required by the organic act, agriculture properly taking the most prominent place. Ten experienced teachers are constantly employed, and provisions are made for extended courses of lectures on important branches of study. The number of pupils now in attendance is larger than ever before, and is continually on the increase. The college is winning the confidence and attracting the patronage of the best people of the state. The present needs of the institution are an enlargement of the college building, barns and fences, and stock of all kinds, together with tools and teams.

Michigan University, (Ann Arbor, Mich.)—A comparison of the catalogue of this institution for last year with the one for the present year reveals some changes and some improvements. The university library contains 5,000 volumes more than at the time of the issue of the last catalogue. During the year it has been enlarged by the addition of the library of the late Prof. Rau, the distinguished professor of political economy in the University of Heidelberg, Germany, which was purchased and presented to the University by Philo Parsons, Esq., of Detroit. This library in itself contains about 4,000 volumes and from 2,000 to 3,000 pamphlets. It is particularly rich in European works on the science of government, statistics, political economy, etc. About $2,000 are appropriated annually for the enlargement of the University library. The libraries accessible to students amount in the aggregate to about 30,000 volumes. In reference to the museum it is stated that Prof. Harrington, who is now connected with the United States expedition to Alaska, and Mr. J. B. Steere, who is on a scientific tour in South America, are making collections for the University. The requirements for admission in several of the departments have been increased. In comparing the summary of students with that of the last catalogue the following results are obtained. In the Literary Department there are at present 509, instead of 488 last year ; in the Law Department 348, last year 307 ; in the Department of Medicine 350, while last year there were only 315. According to the summary in the new calendar there will be graduated in the Literary Department this year 82, instead of 60 last year. The total number of students in all the departments is 1,207. Last year's total showed only 1,110, and in the summary for the present calendar it is specifically stated that "no name is counted more than once." One of the features of the new calendar for this year is a summary of the students by states. From this we learn that Michigan has 565, students in the University ; Ohio, 134 ; Illinois, 123 ; New York, 87 ; and Indiana, 56. Other States and territories are less numerously represented. There is one student from Montana, one from New Burnswick, one from the Sandwich Islands, and 27 from Canada. In all 31 different political organizations are represented.

University of Pennsylvania, (Philadelphia, Penn.)—The following minute description of the new building now being erected for this institution will be read with interest. The building is situated in West Philadelphia, on land owned by the university. The grounds surrounding, also owned by the university, are ample for the construction of other buildings. The one now being erected fronts on Locust street, and is 254 feet long by 102 feet 4 inches deep, exclusive of towers, bay windows, buttresses, etc. There is also a

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projection of the center of the building 21 feet 10 inches beyond the wings. The cellar is arranged for the storage of coal, and an apartment in connection, outside of the building, is provided for the boilers of the steam-heating apparatus. The basement on the sides and rear is entirely above ground, 15 feet high. There is an entrance in the rear for students to the assembly room, 44 feet by 50 feet, and entrances on the east and west ends to a wide corridor which extends the whole length of the building in all the stories. The eastern wing contains: Laboratory, 30 by 45 feet; apparatus and store-room, 24 by 29 feet; metallurgical laboratory, 30 by 50 feet; a fire-proof furnace room, 24 by 34 feet; balance room, 14 by 17 feet, as well as smaller rooms for silver and gold assaying. The western wing contains: Laboratory, 30 by 45 feet, and apparatus and diagram room, 24 by 29 feet, for the chemical lecture room on first floor; one laboratory, 30 by 50 feet, and one, 24 by 34 feet, for the physical department. Apartments for janitor and assistants are arranged on this floor, and for machinery, storage, dumb-waiters, water-closets, etc. The first or principal floor is 16 feet high. On the eastern side of the main entrance is the faculty room of the scientific department, 13 by 22 feet; professors' laboratory, 19 by 45 feet; preparing laboratory, 30 by 50 feet; qualitative laboratory, 30 by 45 feet; quantitative laboratory, 30 by 50 feet; laboratory for organic analysis, 24 by 34 feet; two balance rooms, and two assistants' rooms. On the western side is the reception and secretary's room, 13 by 22 feet; trustees' and faculty room, 19 by 37 feet; provost's recitation room, 24 by 33 feet; and private room, 14 by 18 feet; chemical lecture room, 30 by 45 feet; physical lecture room, 30 by 50 feet; and apparatus room, 24 by 34 feet. The library, in center of rear, 44 by 50 feet, is entered from a hall. This part of the building is fire-proof.

The second floor is 15 feet 6 inches high. The chapel, 50 by 80 feet, occupies the front center of the building and is 28 feet high. The east side contains lecture-rooms for civil engineering, mining, and metallurgy and mineralogy, and a large museum for these departments. The western side and center of rear is divided into six large recitation rooms, with adjoining private rooms. The third floor is 14 feet high, and contains three large recitation rooms, lecture and model-rooms for mechanical engineering, three large rooms for the study and practice of drawing in the departments of civil and mechanical engineering, architecture, etc. A large examination hall is in the rear of the chapel. The fourth floor, over the chapel, has two society rooms for students, each with an adjoining library. The design is in the collegiate Gothic style. The material used is Leiperville stone for the basement, with base course of Hummelstown brown-stone. The walls above are serpentine marble, with cornices, gables, arches, etc., of Ohio stone. The entrance-porch is to be of Franklin stone, with arch supported on polished red granite columns, with enriched capitals of Ohio stone. The windows of chapel and gables are decorated with geometrical tracery.

Yale College, (New Haven, Conn.)—Last Monday evening was a full one at Yale. Professor Eaton lectured in the course on Greek Sculpture at the Art School upon "The Pupils and Contemporaries of Phidias. The Niobe Group," Professor Gillman lectured at the Scientific School, in the Mechanics Course, upon "Recent Contributions to American Geography," and President Porter held his usual monthly reception. Each of the three was well attended.

The Junior Promenade Concert was held in Music Hall a week ago Friday. It is agreed to have been a very successful and well managed affair. There were an unusually large number of ladies present many of whom were from out of town. Several recent graduates also enjoyed the occasion.

The committee appointed by the college to decide in reference to the future course of the boat club, have come to the conclusion that it is advisable to enter the Rowing Association, and have accordingly addressed the following letter to Mr. E. P. Mitchell, of Boston, Secretary of the Association:

NEW HAVEN, JAN. 14, 1871.

Understanding that the National Rowing Association of American Colleges is open to entries of boats from any American College or University, the Yale University Boat Club hereby signity their desire of meeting with said Association at such time or place as may be or has been appointed for arranging preliminaries for the next race.

Very Respectfully,
L. G. PARSONS, *Pres. Y. U. B. C.*

In reply to the above, a letter has been received from Mr. Mitchell, expressing his gratification, and promising all necessary information at an early day. The questions to be considered at a meeting of the association March 18th, or thereabouts, are in reference to time, place and regulations of the race. Subcriptions are soon to be taken in college, for the expenses of the next regatta. The amount necessary to procure the boat, train the crew, and pay off the present debt is estimated at $2,200. Application will be made to all departments. The crew has not yet been chosen.

There was a prize debate at Delta Kappa, on Saturday evening. Prof. H. P. Wright, C. O. Day and B. Hoppin of '72, acted as judges. The question was: "Resolved that a Republican form of Government is better than a Monarchical." The speakers were E. A. Hill, T. J. Lee and W. R. Richards, Aff. W. S. Fulton, B. A. Davis, Neg. The first prize was given to Davis, the second to Richards.

Gamma Nu indulged in a jubilee last Saturday evening. The literary exercises were of a high order. The programme was as follows: Declamation, J. H. Cook; Oration, subject, "Progress in Ideas of Force," C. F. Cutter; Extempore address, G. H. Holden; Papers edited by G. H. Benton and W. H. Hotchkiss. The attendance of Alumni members was very large, and the interest was great. Addresses were made by Messrs. Chatfield, '66, Wells, '68, Heaton and Shirley, '69, Chandler, '70, Mansfield and Dudley, '71, and others. Mr. Chatfield offered prizes of fifteen and ten dollars in books, in case the society would hold a public prize debate. Messrs. Beach, '72, and Vaille, '73, were appointed a committee to superintend the publication of a new edition of Society Songs.

The following officers have been elected by the '74 Literary Society for the present term: President, H. H. Ragan; Vice-President, J. B. Whitting, Secretary, C. J. Harris. Editors, H. B. B. Stapler and J. C. Sellers. The meetings will be held hereafter on every Wednesday evening in Prof. Thacher's recitation room.

A disciple of Euterpe in the Senior class, intending to delight his friends and relieve the hours of toil, purchased an accordeon. Overcome by the influences of Connecticut birth, he opened the instrument to see what was within it, and to the great joy of the neighbourhood, all attempts to put the parts together have thus far been unavailing.

The February number of the *Lit.* to be issued to-day presents the following table of contents:—Wanted—A Standard of Style; the Removal of Trinity College; Telegraph Lines; Shall I Kiss Thee? The Ascent of Man; The Abuse of Popular Men; Thy Mercy; Early Rising; Conversation; Notabilia, Memorabilia, Editor's Table, etc., etc.

The President's lecture room has been furnished with two new ventilators.

Prof. Daniel C. Eaton begins his lectures on Botany to the Senior Class to-day.

Education of the Freedmen.—The following summary of the higher institutions in the Southern States engaged in the education of the blacks is taken from an article in the *Congregationalist* written by the Rev. R. B. Foster. The drift of the article is that we are not gaining upon the ignorance of the south and that congressional aid is necessary in order that there may be improvement in this respect in the future. Some of the facts given below are of later date than others; therefore all are not alike trustworthy as to detail at the present moment:

1. Howard University, Washington, D. C., $400,000. 400 pupils. *Cong.*
2. Hampton Institute, Hampton, Va., $150,000. 300 pupils. *Cong.*
3. Atlanta University, Atlanta, Ga., $75,000 *plus* $8,000 yearly from the state. 170 students. *Cong.*
4. Fisk University, Nashville, Tenn., $50,000 477 pupils. *Cong.*
5. Straight University, New Orleans, La., $50,000. 800 pupils. *Cong.*
6. Central Tennessee College, Nashville, Tenn., $50,000. 226 students. *Meth.*
7. Talladega College, Talladega, Ala., $50,000. 130 students. *Cong.*
8. Berea College, Berea, Ky., $45,000. 250 students. *Cong.*
9. Colver Institute, Richmond, Va., $40,000. 60 students. *Bapt.*
10. Marysville College, Marysville, Tenn., $36,000. 60 students. *Presb.*
11. Tougaloo College, Tougaloo, Miss., $30,000. *Cong.*
12. Lincoln Institute, Jefferson City, Mo., $25.000 *plus* $5,000 yearly from the State. 150 pupils, religious, but *undenominational.*
13. Richmond Normal and High School, Richmond, Va., $25,000. 150 pupils, religious character unknown, but presumed to be purely *secular.*

YALE PERSONALS.

'24, LEONARD.—Dr. Frederick B. Leonard, a prominent physician of Lansingburgh, N. Y., died in that place a few days ago at the age of sixty-seven years. Dr. Leonard practiced medicine in Lansingburgh from 1840 to 1859. He was professor of natural history in the Polytechnic Institute, at Troy, for some years, and at the time of his death was president of the Lansingburgh Bank.

'28, BEARDSLEY.—Dr. Sheldon Beardsley of North Branford died quite suddenly of heart disease at his home in that place on Friday January 29th.

ATWATER, '34.—Charles Atwater, Esq., who was nominated Feb. 6th, as the Democratic Candidate for Lieutenant-Governor of Connecticut, is well know as the leading member of the firm of C. Atwater & Co., iron merchants of this city; member of the New York Board of Education; a convert to Roman Catholicism; and a leader in the woman-suffrage movement.

HUBBARD, '39.—Hon. Richard D. Hubbard. who was nominated for Governor of Connecticut bythe Democratic Convention held in this city Feb. 6th., was born in East Hartford, Sept. 7th, 1818; was one of the editors of the Yale *Literary* for his year; studied law in Hartford, and at the Yale Law School; has resided and practised law in Hartford since 1842; has been State's Attorney for Hartford County; member of the State Legislature several times, representative in Congress 1867-9. He married Miss Mary Morgan of Hartford in 1845, and has several children. He is generally recognized as one of the leading lawyers in the State.

NORTHROP, '41.—Rev. B. G. Northrop, Secretary of the State Board of Education, returned invigorated in health, Feb. 1st., from his six month's trip to Europe, with his daughter. His observations on European systems of education will be embodied in his annual report to the Board of Education.

'54, WING. In a recent letter to a classmate, Yung Wing expresses the hope that he shall be able to come to this country ere long in charge of a party of Chinese young men, to be educated here. The plan has been under consideration for some time and it is hoped will soon be an accomplished fact.

'53, TWINING.—The Rev. Kingsley Twining, of Cambridgeport, Mass., has received an unanimous call to become pastor of the Union Congregational church in Providence, R. I., at a salary of $4000, with expenses of removal added.

'58, SEYMOUR. Edward Seymour is one of the committee appointed at a recent meeting of New York publishers to take action in reference to an International Copyright. Mr. Seymour is a prominent member of the firm of Chas. Scribner & Co.

'66, JUDSON.—Married on Thursday 8th, inst., at Nashville, Tenn, Mr. Fred. M. Judson of St Louis, Mo. private secretary to Gov. B. Gratz Brown to Miss Jennie Eakin of Nashville.

'71, SANBORN.—John S. Sanborn is at present studying law and attending lectures in the Law School in Cincinnati. His post office address is Care of H. & S. Pogue, Cincinnati, Ohio.

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GLEANINGS.

PERSONAL.

— M. Renan, who has been restored to his chair at the College of France, has commenced his lectures.

— Rev. J. L. Gay, of Vincennes, Ind., has accepted a professorship in the State University at Bloomington.

— Prof. Seeley's lectures at Cambridge, England, next term will be on "The Reign of George the Third."

— Rev. A. T. Deming of Newbury, Vt., accepts an appointment as assistant teacher of natural science in Carleton College, at Northfield, Minn.

— Professor Huxley has been compelled to relinquish all work for the present, and has gone to Egypt by medical advice for a two months at least, to recuperate.

— Mr. Disraeli, who was recently elected rector of Glasgow University, will visit Glasgow about Easter, in order to deliver the usual inaugural address to the students.

— Miss Alla Blanche Perkins, late of the Oread Institute at Worcester, has been elected professor of ancient and modern languages in the female college at Jacksonville, Ill.

— The Rev. George W. Eaton, D.D., LL.D., for many years president of Madison University, is very dangerously sick at his home (Woodland Height) in Hamilton, N. Y.

— President Loomis, of the University at Lewisburg, and Prof. Charles Hodge, D.D., of Princeton, are members of the board of visitors to the West Point Military Academy, in 1872.

— The Archbishop of Cologne has ordered four professors of the university to subscribe to the dogma of Papal Infallibility; the penalty in case of refusal being excommunication.

— Prof. Kundt, in Wurzburg, has accepted a professorship at the new Strasbourg University. Professors Prym, Recklinghausen, Lowing and Scherer have likewise accepted chairs.

— Rev. Dr. Hamlin, President of Robert College, delivered an address on Thursday, February 8th, before the Women's Foreign Missionary Society of the Clinton street Presbyterian church, in Philadelphia.

— The Brunswick *Telegraph* says Prof. Chadbourne, has already commenced his duties at Bowdoin College, and Major Sanger, the Artillery officer detailed for duty, is also on the ground to give instruction in military matters.

— It is understood that Prof. Chace, of Brown University, intends to travel abroad for some years for the sake of study and recreation. The corporation unanimously resolved to request him to continue to perform the duties of his department during the present college year.

— A recent article in the *Independent* speaks as follows in reference to Dr. Robinson the new president elect of Brown University: "A man of commanding figure and hight, the meet presentment of a magnanimous moral and intellectual character, in the just mellowing maturity of his faculties, yet touched, by a light anticipation, with that noble appearance of age which invites instinctive veneration, singularly gifted with the stimulating word and the incisive phrase which make the eloquence of the lecture room, and which vivify young men with a touch to the very quick of their life, Dr. Robinson will shame all his antecedents and belie many auguries if he does not revive at Providence, or more than revive, the traditions of magnetic virtue and personal power which are still rife respecting the administration of President Wayland in the memories of the alumni of Brown, and, indeed, in the educational history of the country."

COLLEGE.

— The people of North Adams are to have a course of free lectures from members of the faculty of Williams College.

— The Parliament of Victoria, Australia, has been petitioned to compel the University to grant degrees to women.

— Princeton College now has five Fellows, each with a salary of $600 a year, pursuing the higher studies in Princeton, New York, Edinburgh, Berlin.

— In Tennesse Female College at Franklin, Tenn., it is claimed that the policy of government is to allow the young ladies all the privileges they will not affuse.

— The first church in Detroit, Rev. Addison Ballard, D. D., pastor, gave last year for benevolent purposes, $8,325, of which nearly $6,000 was for Olivet College.

— The Regius professorship of physic in the University of Cambridge, England, has become vacant by the resignation of Dr. Bord, who has held the office since 1851

— Up to February 5th, $649 had been subscribed in Philadelphia for the Franklin Memorial Window in the University of Pennsylvannia. The subscriptions averaged from $5 to $100.

— The bequest of Samuel Miller of $100,000 to the University of Virginia, and the rest of his property to found an agricultural college in Albemarle county, Va., is before the Richmond courts. Two or three millions are involved.

— It is claimed that at Southern University, located in Greensborough, Alabama, a student can live well and board at $10 a month; also that a preacher can prepare himself for his vocation for $100 a year, and that laymen's sons can be educated for $170 a year.

— The following members of the Sophomore Class of Rutgers College have been selected by the faculty for the annual oratorical prize contest of the class on the 22d. inst.: W. H. Bradley, J. W. Searing, O. A. Runk, J. Oppie, R. W. Brokaw, W. F. Gaston, J. W. Wyckoff and J. R. Duryea.

— The sixth annual dinner of the Harvard alumni, under the auspices of the Harvard club of New York city, will be at Delmonico's, corner of Fourteenth street and Fifth avenue, N. Y., on the 21st instant. Gentlemen of the corporation and faculty and others interested in university education will be invited to be present.

— The successful experiments in the manufacture of sugar from beets, which have been made at the Amherst Agricultural College, have suggested the formation of the Massachusetts Beet-Sugar Company, to be chartered by the present legislature with a capital of $100,000, the company to be exempt from taxation for ten years on account of the experimental nature and public utility of the enterprise.

— Howard University at Washington, the institution for the education of the blacks, named after Gen. O. O. Howard, as at present constituted has not only a Collegiate department and one each for the three learned professions of Law, Medicine and Divinity, but a Preparatory School, a Normal School, and a Commercial College. There are now nearly a thousand pupils including some whites.

— The authorities of Rush Medical College have placed instructions in the hands of Mr. Baum, the architect, to prepare at once the plans and specifications for the new building. The structure will be a very handsome building, ornamented with terra cotta and minton tiles, with Philadelphia brick corners. The building will extend 62 feet by 72 feet, and be situated on Indiana avenue, near Dearborn street.

— University College, England, has received the sum of £4,000 towards its building fund, from Mr. Samuel Sharpe. and £1,000 for the same purpose from Mr. J. Pemberton Heywood. Sixteen hundred pounds has also been received from the estate of Mr. Felix Slade, towards the cost of the Fine Art buildings, and to provide casts and other appliances. At a recent session of the council of this college it was decided to admit ladies who are attending the class of political economy to competition for the prizes, and also to the Hume and Ricardo Scholarships which are awarded for proficiency in that science.

THEOLOGICAL SEMINARIES.

— A new Theological Seminary is to be called the Clark Theological Seminary, is to be opened in February, at Atlanta, Ga.

— Mr. Smith Kellogg, of Le Roy, N. Y., recently deceased, left $2,000 to endow a scholarship in Auburn Theological Seminary by the name of the Mannering Scholarship.

— An effort is being made to erect new buildings for the Union Theological Seminary in New York city. The plans prepared embrace the utilization of all the plot in the upper part of the city, which now belongs to the Seminary. But at present only so many of the buildings will be erected as are imperatively demanded. If properly encouraged the Directors design to build soon a structure sufficient to accommodate about 140 students. It is to be four stories in height; the first floor being appropriated to class rooms, a refectory, and a temporary library room; and the stories above the first to dormitories. Two of the class rooms will be 49 by 28 feet each, and the third, 61 by 24 feet. The refectory will be 117 by 28 feet, and is to occupy the northern section of the building. For every two students, a sudy, 12 by 15 feet, and two bed-rooms, 6 by 12 feet, are to be provided on either side of a corridor running through the centre of the upper stories from north to south. The kitchen, laundry, bakery, store-rooms, and accommodations for the Superintendent, Matron and servants, are to be located below the principle floor. The interior finish is to be plain and substantial, with hard sand finish for the walls and ceilings. The entire structure is to be heated with steam, and ample provision made for ventilation. To accomplish this end an additional subscription of $250,000 is needed, and efforts are now being made to secure this amount. Rev. E. F. Hatfield, D. D., 149 West 34th street, is special agent of the Board of Management, and would be happy to confer with any who may be disposed to aid the work.

MISCELLANEOUS.

The first annual dinner of the Middlebury (Vt.) College Association was given at Delmonico's Thursday evening, February 8th. Responses to toasts were made by John G. Saxe, President Kitchell, Prof. B. Kellogg, and others. Letters were read from Judge Nelson of the Supreme Court, and Judge Parker.

The American Institute elected, Thursday evening February 8th, the following officers: President, F. A. P. Barnard; Vice-Presidents, Charles P. Daly, Orestes Cleveland, Henry A. Burr; Recording Secretary, John E. Gavitt; Corresponding Secretary, Samuel D. Tillman; Treasurer, Sylvester B. Comstock.

Of the eighteen Japanese students who have recently arrived in this country, five are to go London, two of whom will study shipbuilding, and three, various industrial arts; four to Paris to study civil engineering, architecture, and agriculture; five to Berlin to study military tactics; and four will remain in New York, and will apply themselves first to the study of language and then settle upon a course of further study.

MISCELLANEOUS.

An Old Inscription.—A Buddhist inscription of date A. D. 1345, has lately been discovered on the interior of an archway in the village of *Kenyung-Kwan*, in North China. Its chief interest consists in the fact that six lauguages are used in parallel vertical columns. These are (1) Sanskrit, (2) Thibetan, (3) Bashpah, (4) Ouigour, (5) Neuchik, (6) Chinese. Of the fifth of these, the Neuchik, which was the national writing of the Kin Dynasty Tartars, all knowledge had been absolutely lost in China. The third and fourth were also largely unknown, and this inscription enables syllabaries and vocabularies of them to be formed.

A Dangerous and Successful Journey.—Mr. Joseph Halevy, the renowned traveller, has visited Arabia, and at a recent session of the geographical society of Paris, gave an account of his journey.

From Aden he tried to enter the interior of Arabia. At Dahadsh he met with serious difficulties and turned to the road to Hodaida. From there he went over Badgel and Behai, into the mountainous province, Saafan, where coffee plantations are abundant. Turning then to the North and by Harraz, he came into the neighorhood of Sana. A severe sickness detained him for two months. After his recovery he visited the sorroundings of Sana and searched the fruitful plains of Belad-Harrit, which supplied him with a great number of inscriptions.

Not far from Shira (Arhab), he found the springs, partly warm, of a river running to the east. Leaving the highland, on which Yemen proper is situated, he arrived at a plain forming a kind of second Tehama. There Halevy remained several months, discovered the above-mentioned river, called by the Arabs, El-Harit, and at its shores many ancient cities, among others the capital of Minoci, with an abundance of inscriptions. He has collected 685 inscriptions and minute notices about topography; and the manners of the inhabitants of those regions. The *Journal Officiel* has a report about these inscriptions by E. Renan. The committee to examine the results of the journey of Halevy, unanimously recognizes its great scientific value. With very limited means, in an almost entirely unknown country, surrounded by suspicious, fanatical and hostile nations, among thousands of dangers and numerous privations, Halevy has attained his purpose. The inscriptions acquired are of the highest value to science.

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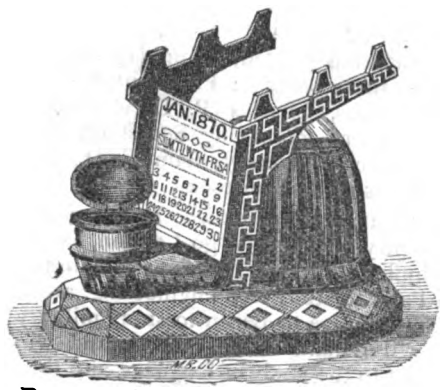

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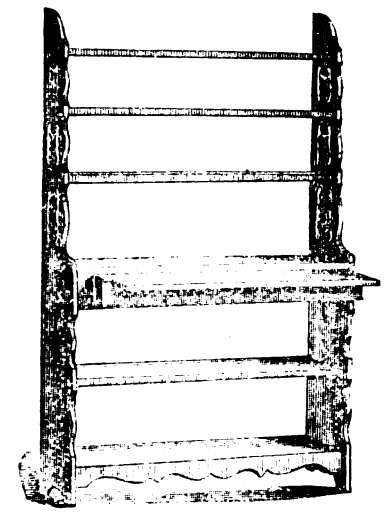

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, FEBRUARY 24, 1872. NUMBER 8.

THE PRESENT STATE OF BIBLICAL REVISION.

BY PROF. GEORGE E. DAY, D. D., YALE COLLEGE.

Within the last fourteen years a remarkable change of feeling in regard to the desirableness and necessity of a revision of the Authorised English Bible has taken place in Great Britain and the United States. When the subject was introduced into the Convocation of Canterbury in Feb., 1856, it met with little favor. The motion of Mr. Heywood in the House of Commons in the July following, "that the Crown be petitioned to appoint a royal Commission for the revision of the English version of the Scriptures" was opposed by Sir George Gray and withdrawn. In February of the next year (1857) the subject was again brought forward in the Convocation of Canterbury, in the form of a motion "to request the Upper House (of Convocation) to take into consideration the appointment of a joint committee of both Houses to deliberate upon the best means of bringing under review the suggestions made during the last two centuries and a half for the still further improvement of the Authorized Version of the Holy Scriptures, and of publishing the results of the inquiry." This was met by an amendment by Canon Wordsworth, "that it is not desirable to countenance any efforts to make changes *in the text*, but that any alterations or additions which it may be deemed expedient by competent authority to be adopted, should be confined to the *margin* and not be introduced into the text." The final blow was given by Archdeacon Denison, who proposed a further amendment "that it is not expedient that this House give any encouragement to any alteration or modification of the Authorized Version, whether by way of insertion in the text, marginal note, or otherwise." The subject was then dropped and all hopes of further action seemed to be at an end.

It was so, however, only in appearance. In the conviction that the feasibility of coöperation in producing an amended version could be proved, five clergymen of the Church of England, among whom were the well known commentators Alford and Ellicott, issued in the year 1857, a revision of the Gospel of John, which was followed soon after by a revision of several of the Epistles of Paul. Although open to criticism, their work rendered important service as showing within what limits a revision by judicious scholars would be kept—and tended to relieve the timidity of the overcautious. It furnished also important hints, derived from the experience of the revisers, in regard to the practical working of coöperative labor, which are likely now to be of the highest value. As the years passed on, the highest scholarship of England, represented by Trench, Alford, Ellicott, Lightfoot and Plumptre steadily maintained the necessity and safety of revision and furnished to the reading public in separate treatises, reviews and other publications, an array of facts and arguments which made a strong impression upon all thinking minds.

When, therefore, the subject was again introduced into the Convocation of Canterbury, in Feb. 1870, in the form of a resolution, "to report upon the desirableness of a revision of the authorized version of the Old and New Testament, whether by marginal notes or otherwise, in all those passages where plain and clear errors, whether in the Hebrew or Greek text originally adopted by the translators, or in the translation made from the same, shall, on due investigation, be found to exist," it not only met with no opposition, but was unanimously carried in both Houses. Few were probably prepared for this surprising and gratifying result. It speaks well for the catholic spirit in which the movement was inagurated, that most of the speakers distinctly recognized from the first the desirableness of calling in the aid of Nonconformist scholars in England. The Lower House of Convocation indeed, which is entitled by usage to a representation on committees double in number those appointed by the Upper House, generously waived its privilege and appointed only the same number, in order that room might be made for scholars from other religious bodies.

The report made by the Committee appointed in February was accepted, and is as follows:

"1. That it is desirable that a revision of the Authorized Version of the Holy Scriptures be undertaken."

"2. That the revision be so conducted as to comprise both marginal renderings and such emendations as it may be found necessary to insert in the text of the Authorized Version."

"3. That in the above resolutions we do not contemplate any new translation of the Bible, or any alteration of the language, except where in the judgment of the most competent scholars such change is necessary."

"4. That in such necessary changes, the style of the language employed in the existing version be closely followed."

"5. That it is desirable that Convocation should nominate a body of its own members to undertake the work of revision, who shall be at liberty to invite the coöperation of any eminent for scholarship, to whatever nation or religious body they may belong."

The committee of revision appointed under the last article met on the 6th of May, 1870, and adopted the following resolutions and rules, as embodying the fundamental principles on which the revision is to be conducted, and naming the scholars invited from other religious bodies to coöperate with them:

I. That the Committee, appointed by the Convocation of Canterbury at its last session, separate itself into two Companies, the one for the revision of the Authorized Version of the Old Testament, the other for the revision of the Authorized Version of the New Testament.

II. That the Company for the revision of the Authorized Version of the Old Testament consist of the Bishops of St. Davids, Llandaff, Ely, Lincoln, and Bath and Wells, and of the following Members from the Lower House, Archdeacon Rose, Canon Selwyn, Dr. Jebb and Dr. Kay.

III. That the Company for the revision of the Authorized Version of the New Testament consist of the Bishops of Winchester, Gloucester and Bristol, and Salisbury, and of the following Members from the Lower House, the Prolocutor, the Deans of Canterbury and Westminister, and Canon Blakesly.

IV. That the first portion of the work to be undertaken by the Old Testament Company, be the revision of the Authorized Version of the Pentateuch.

V. That the first portion of the work to be undertaken by the New Testament Company, be the revision of the Authorized Version of the Synoptical Gospels.

VI. That the following Scholars and Divines be invited to join the Old Testament Company:—

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Chinnery, Professor
Cook, Canon
Davidson, Professor A. B.
Davies, Dr. B.
Fairbairn, Professor
Field, Rev. F.
Ginsburg, Dr.
Gotch, Dr.
Harrison, Archdeacon
Hort, Rev. F. J. A.
Humphrey, Rev. W. G.
Kennedy, Canon
Lee, Archdeacon
Lightfoot, Dr.
Milligan, Professor
Moulton, Professor
Newman, Dr. J. H.
Newth, Professor
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Payne Smith, Canon
Perowne, Professor J. H.
Plumptre, Professor
Pusey, Canon
Wright, Dr. (British Museum.)
Wright, W. A. (Cambridge).
Roberts, Dr. A.
Smith, Rev. G. Vance
Scott, Dr. (Balliol Coll.)
Scrivener, Rev. F.
St. Andrews, Bishop of
Tregelles, Dr.
Vaughan, Dr.
Wescott, Canon.

VII. That the following Scholars and Divines be invited to join the New Testament Company:

Angus, Dr.
Brown, Dr. David
Dublin, Archbishop of
Eadie, Dr.

VIII. That the general principles to be followed by both companies be as follows:

1. To introduce as few alterations as possible into the Text of the Authorized Version consistently with faithfulness.
2. To limit, as far as possible, the expression of such alterations to the language of the Authorized and earlier English versions.
3. Each Company to go twice over the portion to be revised, once provisionally, the second time finally, and on principles of voting as hereinafter is provided.
4. That the Text to be adopted be that for which the evidence is decidedly preponderating; and that when the Text so adopted differs from that from which the Authorized Version was made, the alteration be indicated in the margin.
5. To make or retain no change in the Text on the second final revision by each Company, except *two-thirds* of those present approve of the same, but on the first revision to decide by simple majorities.
6. In every case of proposed alteration that may have given rise to discussion, to defer the voting thereupon till the next meeting, whensoever the same shall be required by one-third of those present at the meeting, such intended vote to be announced in the notice for the next meeting.
7. To revise the headings of chapters, pages, paragraphs, italics, and punctuation.
8. To refer, on the part of each Company, when considered desirable, to Divines, Scholars, and Literary Men, whether at home or abroad, for their opinions.

IX. That the work of each Company be communicated to the other as it is completed, in order that there may be as little deviation from uniformity in language as possible.

X. That the Special or By-rules for each Company be as follows:

1. To make all corrections in writing previous to the Meeting.
2. To place all the corrections due to texual considerations on the left hand margin, and all other corrections on the right hand margin.
3. To transmit to the Chairman, in case of being unable to attend, the corrections proposed in the portion agreed upon for consideration.

It was next agreed to invite the coöperation of American scholars. This was done through Rev. Dr. Schaff of New York, on his visit to Great Britain last summer. The details of the proposed plan of coöperation were arranged in personal conference between him and Bishop Ellicott, Dean Stanley, Prof. Lightfoot and others, and submitted soon after, to the gentlemen in this country, of various denominations, who were invited to unite in this work. They cordially accepted the invitation and at a meeting held in New York on the 7th of December last, adopted with some slight modification the plan proposed. Its principal features are, the acceptance of the principles and rules of revision stated above; the division of the committee into two companies, for the revision of the Old and the New Testaments respectively; the arrangement that the British committee shall submit to the American committee, from time to time, such portions of their work as

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have passed that the first revision, and the American revisers shall transmit their criticisms and suggestions to the British revisers before the second revision; and the provision that a joint meeting of the British and American committees shall be held, if possible, in London, before final action.

The British companies have been industriously at work, and have completed the revision of the Gospel according to Matthew and nearly the whole of Genesis and Exodus. As soon as printed copies of these are received, they will be placed in the hands of the American revisers for consideration and criticism, and the proposal of any other changes which may be thought desirable. The whole work at the present rate of progress is not expected to be completed in less than seven years, and may not improbably occupy ten, but whether the time required be longer or shorter, there is every reason to believe that it will be steadily pressed forward to a conclusion, and that in the end we shall have a translation which, while agreeing substantially with our venerable English version, will present the best results of the learned study of the Scripture for the last two centuries and a half.

THE CORDOBA OBSERVATORY.

The New Observatory at Cordoba, in Buenos Ayres, was recently inaugurated in the presence of the dignitaries of the land and the elite of Cordoba. The exercises consisted of the blessing of the enormous telescope, the largest instrument of the kind in South America, by the Bishop; an address by Professor B. A. Gould, formerly of Cambridge, Mass., but now in charge of this observatory and engaged in mapping the Southern heavens; and short addresses by Dr. Avellaneda, Minister of Education, and President Sarmiento. The address of Professor Gould was printed in full, in *The Standard and River Platte News*, published at Buenos Ayres, from which we take the following extracts. After paying a tribute to the liberality of the government and its enlightened services to the cause of science, first, in organizing and guiding to its successful fulfilment the exposition of national industry and arts, and second, in establishing those temples where the works of God were to be pondered and explored, Professor Gould continued as follows:—We celebrate the foundation of the second National Observatory upon the South American continent, and the first institution of pure scientific research established by the Argentine nation, although we may not forget the splendid museum of the province of Buenos Ayres, to which the learning and ability of its Director has given such a world-wide renown. A path is now fairly broken for the progress of the new forms of intellectual culture and higher civilization which are winning a foothold in all the leading nations of the earth. Within my own memory, the number of observatories in existence where astronomical observations are habitually made, has increased three-fold. Within but little more than 25 years, has been constructed every active observatory now existing in the United States. Even during the single year since the province of Cordoba presented to the nation, for astronomical purposes, the land on which we now stand, tidings have reached me of the establishment of three new astronomical observatories in that country; and there is now scarcely a single institution of higher instruction in that republic, possessing any distinction, which is not either provided with an observatory or engaged in the endeavor to secure one. There are thus at least twenty such institutions in the United States already provided with the means of adding to the sum of human knowledge. In England and on the European continent the number is far greater; and in this Southern half of our Western hemisphere, we have tidings of a magnificent telescope now erecting in the city of Quito, upon the very equator itself, as well as of an observatory, which that devoted lover of science, the Emperor of Brazil, has founded upon the shores of the beautiful bay which gives name to its capital. Thus at least the stimulus of emulation will not be wanting to us, explorers of the Southern skies.

After some general considerations in reference to the objects and benefits of a national observatory, the address continues:

But I will pass from these general considerations. Possibly you may desire to know what we are proposing to do at present, what we hope to do soon, and what we have succeeded in doing already. That there have been delays, I need not tell you. Indeed, I have heard it whispered that this Observatory is neither the first nor the only enterprise which has not progressed with the speed which the managers could have desired. Our instruments were on board ship and ready for sea, when that great war broke out which recently convulsed all Europe. Some were on board a French vessel and some were in German ships; but whatsoever their subject of discord, both French and German vessels agreed on one point—that port was better than sea at such a time. Happily our books and instruments escaped capture by the enemy; but when that danger was past, came a new obstacle, for they were ice-bound in those northern seas. Months passed and melted the Baltic ice; but when the vessels reached the distant shores of the Platte, they found the brilliant city desolated by pestilence, and all the agencies and facilities for commerce gone. These delays over, yet others and still worse ones came, for, ascending the Parana, the port of Rosario was found blockaded, not by foreign foes, but by domestic apprehensions; and thus nearly a year had elapsed before our implements were safely received in Cordoba.

Meanwhile our edifice had not escaped the common calamity of all the public works of the nation; and it is not quite two months since the legislation was perfected which enabled us to resume the work. Now, at last, our building presents itself in its full proportions, and but a little while need elapse before all the instruments are actively at work.

When we lift our glances to the nocturnal sky, while neither moon nor clouds obstruct the beauty of the scene, and contemplate the myriad points of light that gem the firmament,—some brilliantly sparkling, others shining with a milder light, and others still just visible to the unaided eye,—there are few cultivated or thoughtful minds which can fail to be deeply impressed. Yet rarely does the beholder feel the full significance of the prospect. A very few—possibly three or four—of the stars he sees are planets, belonging to our own sun, and changing their position among the rest from day to day. The rest are fixed stars. Looking upon them, we see the heavens nearly as they shone down upon the sages of antiquity,—yes, upon the very earliest of the human race,—and as they lighted up the midnight for those strange and fearful monsters whose fossil bones we sometimes find in their ancient sepulchres to bear witness of those ages, thousands upon thousands of years ago, when no man's footstep had ever pressed the surface of our globe. We are gazing into the unfathomed abyss of creation. Not one in a hundred of those stars is within a distance which the resources of science or of human skill have yet permitted us to measure; yet the tremendous distances of those few nearest ones, which man has at length succeeded in determining, are such that our imaginations fail to conceive them, even when the demonstrations of science compel our intellects to accept the facts. Of all the stars whose distances have yet been measured in either hemisphere, the nearest is one called Alpha, in the constellation of the Centaur, the brightest of those two bright ones which point to the Southern Cross. The distance of this star is eighty-six million times that of the moon. It is more than seven millions of millions of leagues. A cannon ball impelled at the rate of three and a half leagues a minute, would require four million years to reach this star. Yet it seems to be the nearest to us of all. Sirius, the brightest star in the sky, is at more than six times the distance. Light itself requires more than twenty years to reach us from that stupendous remoteness; and could a telegraphic message be sent us thence with the same speed as it traverses the electric wires upon earth, at least 360 years would be needed for its transmission, and the tenth generation of our descendents would receive the tidings intended for ourselves.

These stars are among the nearest of all. Their distances are measurable within relatively narrow limits of uncertainty; but the researches of astronomers have shown that comparatively very few of the stars—probably not one in every hundred visible to the unaided eye—are at all comparable with these in nearness, and human capacity has proved inadequate to determine their distances, even with crude approximation.

Enough is here to compel our wonder and our awe; yet when the telescope is called to our aid, we find that what our unassisted vision had disclosed was but a faint suggestion of the countless myriads which are revealed. The number of stars visible to the naked eye in the entire circuit of the heavens has been usually estimated at about 6,000; an ordinary opera-glass will exhibit something like ten times that number; a comparatively small telescope easily shows 200,000, while there are telescopes in existence with which there is reason to believe that not less than 25 million stars are visible.

Here is a field for the astronomer. And it is clearly one of his first duties to determine, as accurately as he can, the position and brilliancy of the principal celestial objects, not only in order to be thus provided with landmarks in the heavens by which to trace the movements of planets and comets, but also in order that such small changes as are taking place in their position and brilliancy may be well determined, and the causes and laws deduced to which these changes are due.

In the year 1751 a French astronomer, Abbe de la Caille, visited the Cape of Good Hope for the purpose of determining the positions of the principal southern stars. With a little telescope of comparatively insignificant dimensions, he succeeded in obtaining the materials for so complete a catalogue—as far as the limit of brightness which his telescope permitted—and in determining the positions of those stars so well that this catalogue of about 9,800 stars constitutes to-day the chief reliance of astronomers for their knowledge of a large portion of the southern sky. Since that time a permanent observatory has been established by the British Government at the same place, and a large number of valuable observations have been made by various eminent men. Other observatories in the southern hemisphere have been founded at Paramatta, Santiago de Chile, and Melbourne, all of which have contributed essentially to our knowledge of the southern sky; as also has the observatory at Madras, which, although north of the equator, commands a view of the greater portion of the southern heavens. Yet how much remains to be done in this direction will be very evident when I state that, while the number of stars in the northern hemisphere whose positions and magnitudes have been determined cannot fall short of about 330,000 the number of the southern hemisphere whose observed places have been published does not probably exceed 50,000. But this is not all. The greater portion of those which have been observed lie in that part of the sky which is clearly visible in Europe; and if we consider the regions beyond 30 deg., there are scarcely 13,000 southern stars whose places and magnitudes have been determined and made available for scientific use, while the corresponding portion of the sky contains something like 164,000 such stars. The late astronomer Gilliss, the originator of what is now the National Observatory of Chile, as well as of the Naval Observatory at Washington, of which latter he was the Director at the time of his death, devoted much time and labor to the effort to supply this pressing need; and while at Santiago, he made the requisite observations for determining the places of no less than 23,000 stars within 40 deg. of the South Pole. The computations were

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carried on at the expense of the U. S. Government, and were nearly completed at the time of his death, in 1865, after which the work was unfortunately suspended; but I have lately received the gratifying assurance that the calculations are now to be completed, and the resulting catalogue published by the Observatory at Washington.

The first undertaking now proposed for the Argentine Observatory is to do something towards filling this hiatus by determining the places of the principal stars situated between the tropic, where the observations of northern astronomers begin to become less numerous, and the polar circle, where Gilliss' observations commence. This work is best performed by dividing the sky into narrow zones or belts, and subjecting each zone to a special scrutiny for the purpose of measuring the positions of all stars of a sufficient brightness within its limits. If no unforeseen impediment presents itself, these observations should be completed within two years from their commencement.

There is another most important investigation especially desirable in the present condition of our knowledge; this is the application of the newly discovered methods of stellar photography to the more prominent objects in the southern heavens. The ingenious researches and inventions of Mr. Rutherford in New York have resulted in the development of methods by which the relative positions of clusters of stars may be permanently recorded by photographing them upon glass, and the numerical values subsequently determined by means of a measurement of the photographic impressions, with a degree of precision far greater than that of the ordinary methods. And this process possesses the signal and peculiar advantage, that the representations thus obtained of the stars' places at a given moment may be preserved, and the measurements repeated at any subsequent time. The process has not yet been introduced into European observatories, but it has been thoroughly tested in America, and valuable researches have already been made by this photographic method. At the time of my departure from the United States I had some reason to believe that contributions to a considerable amount would be made by the friends of science in my native city, in order to permit photographs of objects in the southern sky to be made at this observatory. My hopes in this respect were not entirely fulfilled; but I have still much confidence that something may be done in that direction, and that I may yet enjoy the privilege of soliciting from his Excellency the Minister of Public Instruction permission to make at the Argentine National Observatory the first stellar photographs in the southern hemisphere, these to be subsequently measured, and the results submitted to rigorous computation.

It remains for me, Mr. President and gentlemen, to say a few words, even at the risk of wearying you, regarding the manner in which we have employed our time during this past year while awaiting the completion of the Observatory.

During the greater part of the year we have had neither instruments nor building, and during the short time these have been available we have experienced an unexpected and most serious obstacle in the clouds of impalpable dust, which, rising from all sides, penetrate to the utmost crevices of every part of the instruments. This difficulty will, I think, be obviated to a great extent when vegetable growth shall have covered the soil; and to this end H. E. the Minister has given directions for providing as good a supply of water as may be possible, while the building and instruments have been provided with special and unusual protections against the evil. The position of the city of Cordoba renders this trouble inevitable, inasmuch as water for irrigation is only to be found in the valley, whilst an observatory must necessarily be placed upon high land. With the arrival of the rainy season I trust that a carpet of vegetation may remove this source of anxiety.

A considerable time would under any circumstances have been requisite for computing the numerical tables and making the various other calculations needful for bringing the instruments into active service. The additional interval has been employed in an undertaking of a totally different sort, which may, I trust, be found in the end to possess as much scientific importance as the work originally intended. During this period of enforced delay we have succeeded in making a full catalogue of all those stars of the southern heavens which are visible to the naked eye, determining for each one the precise degree of its brightness. When, after the moon has set to night, you raise your vision to the starry sky, and, as you look more intently, perceive one faint star after another reveal itself to your sight, you will yet succeed in discerning no star whose place and magnitude has not been recorded within the past year by some one or more of the observers in this institution—

"Sidera cuncta notans tacito labentia cœlo."

Nor has the progress of the work failed to afford its due share of discoveries. It has given us the knowledge of a considerable number of stars which possess the singular character that their brightness is not always the same, but undergoes systematic variations. Some have been seen to rise to considerable brilliancy, and then fade away until telescopes of some power are needed for rendering them visible. Others still are now found to possess a brilliancy decidedly greater or decidedly less than that which has been assigned to them by more than one astronomer in times past. Such stars must be carefully watched, and the fact of any regular and periodic fluctuation in the amount of their light either established or disproved. Of such cases there are already many on our records, thanks to the assiduity and zeal of the assistant astronomers, no one of whom has failed to make manifest the existence of several. One of those most remarkable for the rapidity of its changes is a little star in the constellation "Musea," which is invisible to the unaided sight during one half its period, and visible during the other half, while the observations of Mr. Rock show that it goes through all its changes within the short interval of 21¼ hours. Another in the constellation of the "Southern Triangle," which has been regularly observed by Mr. Davis, exhibits regular fluctuations of light, comprised within a period of about 3½ days, similarly alternating between visibility and invisibility. These two exhibit the most rapid changes of any of the stars which we have hitherto observed; but there are others not less interesting, observed not only by the two gentlemen mentioned, but also by Messrs. Thome and Hathaway, who are likewise pursuing these investigations with much success.

The transparency of the sky of Cordoba upon favorable nights may be judged of by a single additional fact. You will find in the treatises on astronomy, as I have already mentioned, the total number of stars in the entire heavens visible to the naked eye, estimated at from 5,500 to 6,000. Now, we have already recorded in the 'Uranometria Argentina' the places of not less than 6,400 stars, visible to the unaided sight of every one of our observers, in the Southern Hemisphere alone; while in the first 10 deg. of the Northern Hemisphere we have 800 more, making in all at least 7,200 stars; so that we are justified in the belief that were the sky equally transparent for astronomers in the Northern Hemisphere, the total number of stars visible to the ordinary eye would be estimated at certainly not less than 11,000, instead of half that number.

This work of the Uranometry is now near its conclusion. Little remains to complete the necessary observations, except that general revision which all investigations require. But the work of publication will of course be laborious, and somewhat expensive. The maps will need to be drawn with great care, and the positions of the stars transferred to them with all the minuteness possible; even the labor of preparing the manuscripts for the press is by no means slight, since the positions of the stars observed must not only be given with scrupulous accuracy, but must also be compared with those resulting from the observations of other astronomers. Still, I doubt not that the necessary means for all this will be accessible in due time.

Such is the nature of the task which the observatory now proposes to itself; such is the character of the observations which it has been carrying on. The duties of a public observatory imply the prosecution of regular and systematic investigations, as distinguished from those desultory ones, which require less organization, and can be equally well carried on by individuals provided with less expensive implements of research. Thus, for instance, the search for comets—which appear unexpectedly, and are usually discovered by means of special scrutiny of the sky for this purpose—is of course incompatible with the execution of a regular system of obser vations. The time bestowed upon such searches is well applied by those who have time at their command, and may result in valuable accessions to our knowledge, but it is not desirable that astronomers, provided with delicate and costly instruments, should neglect those observations which must yield a sure return, in order to expend their energies in directions where success is less certain, and, indeed, less important, even though it may promise at the moment a greater share of public applause. I understand the desire of the Government to be that the capabilities of this new institution of science shall be so directed as to contribute most efficiently to the progress, culture, and honor of the nation, and to the advancement of astronomy. That it may accomplish this shall be my earnest endeavor.

The address concluded with congratulations to those interested upon the completion of the great work.

THE HASSLER EXPEDITION.

DREDGING FOR ANIMALS.

The following letter from Professor Agassiz, in charge of the "Hassler Expedition" detailing further work of the party, has been received by Professor Benjamin Peirce, Superintendent of the United States Coast Survey:

PERNAMBUCO, January 16, 1872.

MY DEAR PEIRCE: I should have written to you from Barbadoes; but the day before we left the island was favorable for dredging, and our success in that line so unexpectedly great, that I could not get away from the specimens, and made the most of them for study while I had the chance. We only made four hauls in between seventy-five and one hundred and twenty fathoms. But what hauls! Enough to occupy half a dozen competent zoölogists for a whole year, if the specimens could be kept fresh for that length of time. The first haul brought up a cnemidium-like sponge; the next gave us a crinoid very much like the rhizocrinus loftensis, but probably different; the third, a living pleurotomaria (a gasteropod); the fourth a new genus of spatangoids (family of echinoids); etc., etc., not to speak of the small fry. We had the crinoid alive for ten or twelve hours. When contracted, the pinnacles are pressed against the arms and the arms themselves shut against one another, so that the whole looks like a swash made up of a few long, coarse twines. When the animal opens, the arms at first separate without bending outside, so that the whole looks like an inverted pentapod; but gradually the tip of the arms bend outward as the arms diverge more and more, and when fully expanded the crown has the appearance of a lily of the Mailagon type, in which each petal is moved upon itself, the pinnacles of the arms spreading laterally more and more as the crown is more fully open. I have not been able to detect any motion in the stern traceable to contraction, though there is no stiffness in its bearing. When disturbed the pinnacles of the arms first contract, the arms straighten themselves out, and the whole gradually and slowly closes up. It was a very impressive sight for me to watch the movements of this creation,

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for it told, not of its own ways only, but at the same time afforded a glimpse into the countless ages of the past, when these crinoids, so rare and so rarely seen nowadays, formed a prominent feature of the animal kingdom. I could see, without great effort of the imagination, the shoal of Lockport teeming with the many genera of crinoids which the geologists of New York, have rescued from that prolific silurian deposit, or recall the formation of my native country, in the hillsides of which, also among fossils indicating shoal-water deposits, other crinoids abound, resembling still more closely those we find in these waters. The closer affinities of rhizocrinus with the apiocrinoids are further exemplified by the fact that, when the animal dies, it casts off its arms like apiocrinus, the head of which is generally found without arms. And now the question may be asked what is the meaning of the occurrence of these animals in deep waters at the present day when in former ages similar types inhabited shallow seas? Of the fact there can be no doubt; for it is not difficult to adduce satisfactory evidence of the shoal-like character of the silurian deposits of the State of New York. Their horizontal position, combined with the gradual secession of the higher beds in a southerly direction, leaves no doubt upon this point; and in the case of the jurassic formation, alluded to above, their combination with fossils common upon coral reefs, and their presence in atols of that period are satisfactory proofs of my assertion. What does it then mean when we find the petacrinus and rhizocrinus of the West Indies in deep waters only? It seems to me that there is but one explanation for the fact, and that is, in the progress of the earth's growth we must look to such a displacement of the conditions favorable to the maintenence of certain lower types as may recall most fully the adaptations of former ages; and it was in this sense I alluded in my first letter to you, to the probability of our finding in deeper waters representatives of earlier geological types; and if my explanation is correct, my anticipation is also fully sustained. But do the deeper waters of the present constitution of our globe really approximate the conditions, for the development of animal life, of the shoal seas of past geological ages? I think they do, or at least come as near to it as anything can in the present order of things upon earth; for the depths of the ocean alone can place animals under the high pressure which the heavier atmosphere of earlier periods afforded. But surely such high pressures as animals meet in great depths cannot be a favorable condition for the development of life, hence the lower forms found in the deep sea. The rapid diminution of the light with increasing depth, and the small amount of free oxygen in these waters, under greater and greater pressure, not to speak of other limitations arising from the greater uniformity of the conditions of existence, the reduced amount and less variety of nutritive substances, etc., are as many causes acting in the same direction and with similar results. For all these reasons, I have always expected to find in great depths organized beings of an inferior standing in the scale of structural complications than those found in shoal waters or near shore, and the correlation elsewhere pointed out between the standing of animals and their order of succession in geological times—(see "Essay on Classification")—justifies another form of expression of these facts, viz., that in deeper waters we should expect representatives of earlier geological periods. But there is nothing in all this which warrants the conclusion that any of the animals now living are lineal descendants of those of earliest ages. Nor does this similarity, to those of earlier periods, justify the statement that the cretaceous formation is still extant. It would be just as true to nature to say that the tertiaries are contained in the tropics, on account of the similarity of the miocene mammalia and those of the torrid zone. We have another case in the pleurotomaria. It is not long since it has been made known that the genus pleurotomaria is not altogether extinct, since a single specimen was discovered about ten years ago in the West Indies. Even Pictit, in the second edition of his "Palæontology," still considers pleurotomaria as extinct, and ranging among the fossiliferous formations from the silurian period to the tertiary. Of the living species found at Marie Galante nothing is known except the specific characteristics of the shell. We dredged it in 120 fathoms on the west side of Barbadoes, alive, and kept it alive for twenty-four hours, during which time the animal expanded and showed its remarkable peculiarities. It is unquestionably the type of a distinct family, entirely different from the other mollusks, with which it has thus far been associated. Mr. Blake has made fine colored drawings of it which may be published at some future time. The foot is quite large, consisting of a vertical mass of flesh of considerable height, about one inch, and longer than the diameter of the shell, in fact nearly double its length. Where the mantle is attached to the sides of the foot, along its upper margin, it forms a membranous seam free from the foot and fringed all along with distinct papillæ, resembling somewhat the papillæ along the margin of the mantle of our naiades, and surrounding the rudimentary siphonal fold. These papillæ are still more developed along the characteristic edge of the mantle which lines the emargination of the shell, to which the genus owes its name. When the animal is fully expanded the opposite edges of the mantle encircling the slit of the shell are approximated, and the curve of the end of the slit remains alone open, simulating a siphon. The head of the animal is quite conspicuous; a large cylindrical proboscis projects in front between two large straight and somewhat stiff tentacles, at the base of each of which, on its outer margin, is a small sessile eye. The surface color of the whole animal is reddish brown; fine lines of a darker hue extend transversly upon the whole head, but are closer together and finer upon the proboscis than back of the tentacles. The margin of the ankle along the upper side of the foot is also darker than the foot itself. I hope at some future time to be able to complete the examination of the soft parts by dissecting the internal organs. Pictit has shown his usual sagacity in assuming, from the examination of the fossil alone, that these shells have no operculum. The family of the pleurotomarido numbers between four and five hundred fossil species, beginning in the silurian deposits but especially numerous in the carboniferous and jurassic formations.

The sponges afford another interesting case. When the first number of the great work of Goldfuss, on the fossils of Germany, made its appearance about half a century ago, the most novel types it made known were several genera of sponges from the jurassic and cretaceous beds described under the names of siphonia, cnemidium, and scyphia. Nothing of the kind has been known among the living to this day; and yet the first haul of the dredge, near Barbadoes, gave us a cnemidium, or at least a sponge, so much like the jurassic cnemidium that it must remain for future comparisons to determine whether there are any generic differencies between our living sponge and the fossil. The next day brought us a genuine siphonia, another genus thus far only known from the jurassic beds. And it is worth recording that I noticed in the collection of Governor Rawson another sponge brought to him by a fisherman who had caught it on his line on the coast of Barbadoes, which belongs to the genus scyphia. Thus the three characteristic genera of sponges from the secondary formations, thus far supposed to be extinct, are all there represented in the deep waters of the West Indies. I saw also a number of specimens of pentacrinus Mulleri in Governor Rawson's collection; but we were not fortunate enough to dredge more than fragments of it. The most valuable specimen in Mr. Rawson's collection, however, is a well preserved holopus, which leaves no doubt that this curious animal is a genuine crinoid, as d'Orbigny considered it. I shall give you a full description of it on another occasion, as Governor Rawson had the great kindness to allow me to take his with me for further examination and illustration. I cannot let this opportunity pass without stating that our stay in Barbadoes was made particularly ageeable and instructive through the many attentions of our old friend the Governor. Staying at his house I had ample opportunities of studying his extensive collection, especially rich in shells and particularly valuable for the full series of specimens it contains, representing every stage of growth of a very large number of the species.

Another family of organized creatures brings a similar testimony to that already alluded to. If there is a type of echinoderms characteristic of a geological period it is the genus micrastes, of the cretaceous formation, in its original circumscription. No species of this genus is known to have existed during the tertiary era, and no living species has as yet been made known. You may therefore imagine my surprise when the dredge first yielded three specimens of a small species of that particular group of the genus which is most extensively represented in the upper cretaceous bed. Other examples of less importance might be enumerated. Suffice it now to add that my expectation of finding in deep waters animals already known, but thus far exceedingly rare in museums, is already in a measure realized in the discovery of specimens of latiaxis, for instance, and of craniphorus. But my time for writing is up. I close in the hope of being able to avail myself more freely of the opportunities we may meet when we reach the ground where we shall no longer be driven by the necessity of pressing forward. Ever truly yours, L. AGASSIZ.

Professor Benjamin Peirce Superintendent United States Coast Survey.

SCIENTIFIC.

ACOUSTIC ILLUSTRATION OF THE METHOD BY WHICH STELLAR MOTIONS ARE DETERMINED WITH THE SPECTROSCOPE.

The fourth of the series of lectures known as the Mechanics' course, was delivered on Thursday evening last in the large Hall of the Sheffield Scientific School, upon the above subject, the lecturer being Prof. A. M. Mayer, of the Stevens' Institute of Technology.

Prof. Mayer began by calling the attention of his audience to the character of vibrations, instancing the pendulum as one of the best examples of visible mass-vibration, and saying that the curve representing its motion was that representing all other vibratory motions of whatever kind. This curve he had obtained experimentally by means of an ingenious apparatus which he described. Beside these, there are molecular vibrations, due to elasticity, the action of which was very clearly illustrated upon the black-board. A water-wave is a mass-vibration as is shown admirably by Prof. Lyman's wave-apparatus. The progressive character of a wave was then exhibited by means of a long wire coil, along which an impulse was transmitted as a visible undulation or wave. As an example of a molecular vibration due to elasticity, the vibration of a Brown & Sharp's straight-edge, fastened firmly at one end, was given; and a series of beautiful curves drawn upon smoked glass by a wire attached to such a vibrating rod, were thrown on the screen.

The lecturer then passed to the theories of light, describing the emission theory and the undulatory theory. Certain phenomena, such as reflection, refraction, and dispersion, could be equally well accounted for by either, but certain others, such as those of interference, could be explained only by a wave or undulatory theory. This latter, theory supposes a trembling of the particles either of air or of the matter filling space, which trembling, so far as interference goes, may be lateral, or longitudinal. In sound, the vibration is longitudinal; in heat and light, lateral. Hence, sound-waves may interfere and produce silence; light-waves may interfere and produce darkness; heat-waves may interfere and produce cold. The ear is so constituted that it takes cognizance only of the longitudinal vibrations of the air, though the air vibrates in all directions; the eye takes notice only of la-

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teral ether-vibrations, though the ether vibrates in all directions. Interference was then described and illustrated on the board, and the phenomena of fringes shown to result from the overlapping of waves in unequal phases, which could be a consequence only of undulations. The practical use of such knowledge as this was illustrated by a description of Newton's rings, and the method by means of which these rings may be made to indicate a distance as small as a millionth of an inch. Another instance of the practical application of these facts is Arago's Differential Refractometer, which will show a difference of density in the air of $\frac{1}{80000}$ part, and by which the refraction of the air has been measured, and tables constructed, by whose use the mariner may find the true altitude of the sun.

The effect of lengthening and of shortening a wave was then explained. In the case of a sound-wave—moving 1100 feet a second whatever the wave-length—if the length be diminished more vibrations enter the ear in the same time and the pitch rises; if it be increased, less vibrations enter, and the pitch lowers. Light waves are strictly analogous; whenever any one of the colored waves which form white light, is lengthened its color changes toward the red end of the spectrum; when it is shortened, toward the violet. Hence change of pitch in the case of sound, or of color in the case of light is evidence of motion, either to or from the observer; which it is, depends on whether the wave is lengthened or shortened. Now, while the motion of a star at right angles to the line of sight is easily detected and measured by the telescope, motion in the direction of this line is capable of measurement only by the spectroscope; if the motion be diagonal, then by both of these instruments together. Hence the motion of a fixed star in space, or of a whirlwind on the sun, may be measured by the change in refrangibility, which certain lines in the spectrum undergo.

To illustrate this point by means of sound waves, was the object of the evening. With the lantern the image of a tuning fork beating 256 times a second—and giving the note Ut_3—was thrown on the screen. By the side of one of the prongs, and just touching it, was a carefully rounded and varnished cork ball, suspended by a filament of silk. On sounding a second fork placed on its case and tuned in accurate unison with the first (by an ingenious method devised by Prof. Mayer) anywhere in the room, even 30 feet distant, the first was thrown into vibration and the image of the cork ball was projected a foot or two away from the prong. When however, the second fork was sounded, and the lecturer walked rapidly—at a rate of 8 feet a second—towards or from the first, touching the case only when in motion, no motion of the cork was observed; the wave being in this way shortened or lengthened by an amount sufficient to throw it out of unison with the lantern-fork. Again, a third fork, vibrating 254 times a second, produced no effect on the ball; but when sounded and placed on its case as this was swung rapidly toward the first fork, the wave length was thereby so shortened as to bring it into unison with this, and the ball promptly responded. A fourth fork, vibrating 258 times, showed the same phenomenon, when placed on its case as this was swung away from the first fork, the wave thus being shortened into unison. The demonstrtion was most complete and satisfactory. Prof. Mayer stated that he purposed making some quantitative experiments with the apparatus, which will be of the highest value to science.

The lecturer closed with an application of this sound demonstration to the phenomena of light. It was an exceedingly interesting lecture throughout and was listened to with the closest attention. B.

Silica, Diamagnetic.—Prof. Dove has successfully suspended, between the poles of a powerful electro-magnet, sections cut from colorless rock-crystal, smoky quartz, agates composed of alternating layers, chalcedony, jasper, amethyst, and other varieties of quartz. Their uniform behavior in the magnetic field shows that all the different kinds of native silica are diamagnetic.

Fluor-Aniline.—A new fluorescent substance, named fluor-aniline, has been discovered. It is obtained as a secondary product, with aniline red or aniline chloride of mercury. After triturating the mass resulting from this reaction, and adding a little water and washing it with ether, a solution of fluor-aniline is obtained, which is almost insoluble in cold, and but slightly so in warm water. It is soluble in hydrochloric, nitric, sulphuric and acetic acids, and combined with them forms liquids equally fluorescent. In aniline red, prepared with chloride of zinc, there has also been discovered another substance similar to fluor-aniline, which presents a blue fluorescence.

New Preservative Fluid.—The following are the ingredients of a liquid by means of which the organs of the body that have become absolutely offensive, from decay, may be treated so that they can be examined for marks of injury or signs of disease. The fluid consists of a mixture of iodine one drachm, methylated ether (of specific gravity ·720) ten fluid ounces, absolute alcohol one fluid ounce, and strong sulphuric acid four fluid drachms. The action of the solution seems to be that the iodine deodorizes, while the sulphuric acid engages the water and the alkaline products of decomposition and produces the necessary firmness of structure. The ether escapes, being simply the fluid dissolvent for the other agents.

Copying Drawings by the Aid of the Induction Coil.—All draftsmen are acquainted with the device of puncturing holes through a drawing for the purpose of obtaining an outline and afterwards transferring the outline, by sifting fine plumbago or other powder through the small holes. The fatigue of making the holes by hand is great, and M. Cauderay, of Lausanne, proposes to employ the induction coil for this purpose. A table covered with tin-foil is connected with the negative pole, on it may be placed as many sheets of paper as the spark will pass through. The positive pole, consisting of a metal bar, insulated with gutta-percha, can serve as a pencil for copying the tracings. The metal point of the pencil being moved about on the contour and outline of the engraving, electric sparks spring across every time a connection is made, and puncture fine holes through the paper.—*Scientific American.*

Spectrum of the Fire-fly.—Prof. C. A. Young says this is "perfectly continuous, without trace of either bright or dark lines, and extends from a little above Fraunhofer's line-C, in the scarlet, to about F in the blue, gradually fading out at the extremities. It is noticeable that precisely this portion of the spectrum is composed of rays, which, while they more powerfully than any other affect the organs of vision, produce hardly any thermal or actinic effect. In other words, very little of the energy expended in the flash of the fire-fly is wasted. It is quite different with our artificial methods of illumination. In the case of an ordinary gas-light, the best experiments show that not more than one or two per cent, of the radiant energy consists of *visible rays;* the rest is either invisible heat or actinism; that is to say, over ninety-eight per cent, of the gas is wasted in producing rays that do not help in making objects visible."

Energy of Position.—"In a fire, we burn carbon, and make it unite with oxygen in order to form carbonic acid, and in so doing we change the energy of position derived from the separation of two substances having so great an attraction for each other, oxygen and carbon, into the energy of heat. In a leaf on the other hand, these two strongly attractive substances are forced asunder, the powerful agent which accomplishes this being the sun's rays, so that it is the energy of these rays which is transformed into the potential energy, or energy of position represented by the chemical separation of this oxygen and carbon. The carbon, or rather the woody fibre into which the carbon enters, is thus a source of potential energy, and when made to combine again with oxygen, either by direct combustion or otherwise, it will in the process give out energy. When we burn wood we convert this energy into heat, and when we eat vegetables we assimilate this energy into our systems, where it ultimately produces both heat and work."—*Balfour Stewart.*

Occlusion of Hydrogen.—"Whilst repeating some of Graham's experiments, under varied conditions, Böttger obtained some interesting results. He employed a battery of two Bunsen cells, strongly excited, and, as electrolyte, water, rendered feebly sour with pure sulphuric acid. The anode was a plate of platinum foil, and the cathode a square inch plate of palladium, of the thickness of stout note paper, removed about two inches from the platinum, and previously covered on both sides with a pretty thick porous coating of electrically-deposited so-called palladium black. After the circuit had been closed about a quarter of an hour, and it appeared that the palladium was saturated, it was taken out of the liquid and dried quickly between folds of blotting paper; in a few moments its temperature rose to at least 200 deg. Cent. If, after withdrawal from the liquid and quickly drying, such a piece of palladium be wrapped up tightly without loss of time in gun cotton, the latter explodes after the lapse of from three to five seconds. Though before its first saturation with hydrogen the plate of palladium could scarcely be bent with the fingers, it was noticed that after it had undergone a heating it was distorted in a remarkable manner."

Hæckel on the Mechanical Theory of Life.—Professor E. R. Lankester in a review of Hæckel's "Biological Studies" in *Nature*, remarks as follows:

Prof. Hæckel, of Jena, "having done more than any other observer, to establish the Protoplasm theory by his discovery of organisms of the simplest conceivable structure,—that is, not even possessing a differentiated central nucleus,—his remarks upon the present condition of the Spontaneous Generation question must possess great weight." Among the quotations which the reviewer makes, the following paragraph, taken from his chapter on "The Monera and Spontaneous Generations," is one of the most important:

"Since in our Chemical laboratories, with our exceedingly limited and rough methods, we have succeeded in forming many Carbon-compounds, and have good reason to suppose that we may one day synthetically produce albuminoid bodies, is it not reasonable to suppose that in the great laboratory of Nature, similar but more complex chemical synthesis may go on, such as the formation from ignorganic materials of albuminoids and of living protoplasm? If we are to call in a special creative act—superior to mere chemical synthesis—to account for the existence of protoplasm because we have not succeeded in forming it artificially, so also must we postulate a peculiar creative act for a great variety of minerals, such as feldspar, fluor spar, heavy spar, augite, etc., since we are equally unable to build up these ignorganic bodies. In this way we should divide the whole world into a natural and supernatural group. The former would contain such salts, gases, &c., as we can build up in the laboratory, also alcohol, acetic acid, etc. All these bodies have arisen by Archigenesis, *i. e.*, by natural, mechanical means, solely by the interaction of the inherent physical and chemical forces of their matter. The latter group would contain all minerals not yet formed in the laboratory, also all the complex Carbon-compounds. These bodies would be considered as arising by "Creation," that is, by supernatural means, through a means, through a mysterious creative force existing externally to the bodies. To every philosophic naturalist such a view must appear as untenable as is every assumption of a "Creation." On the other hand the assumption of an Archigenesis for the first living beings from which all others have developed, is a logical postulate of the human intelligence."

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, FEB. 24, 1872.

By all interested in the present effort to revise the Holy Scriptures, the article in another column by Prof. George E. Day, D. D. one of the American Committe of Revisers, will be read with especial interest. Much of the information which Prof. Day presents is rare, and the whole article is an interesting account of the origin and progress of the work.

THE usual race between Oxford and Cambridge Universities, England, has been fixed for Friday, March 23d. next. The race will take place over the usual Thames course, and it is said the tide will be favorable to have it come off about 1 p.m. The betting is said to be in favor of the Cambridge crew which it is thought will have four or five of last year's winning crew in its boat.

IT seems that in every case the introduction of the elective system of study does not result in decreased attention to the classics. If we may accept the statements, printed elsewhere, in reference to Richmond College, the reverse is the case in that institution. How far the peculiar system of organization in that college may tend to produce this result, it is impossible to say. But the testimony is worth the attention of both the advocates and foes of the elective system.

THE foundation of an Astronomical Observatory in South America, is an event of some importance, and worthy of commemoration. The address of Professor Gould at the inauguration of the Cordoba Observatory in Buenos Ayers, some extracts from which are printed in this issue, give some interesting details in reference to this institution, and the progress of the work in which he is engaged. It is gratifying to know that the means for stellar photography, to which he refers, have been furnished him since the address was delivered, and that he is now supplied with all necessary instruments for accomplishing the great work of mapping the Southern heavens.

AN attempt is being made by certain New York and Boston Insurance Companies to obtain a portion of the Chinese Indemnity Fund, as compensation for the destruction of the ship Chaldea. It seems that when the claim of the Chaldea was audited by the Government Commissioners who had charge of auditing the claims against the fund, they deducted 60 per cent from it, on the ground that her cargo was damaged that amount at the time of her capture. But the insurance companies paid the whole sum for which the yessel was insured, and they now claim they ought to be reimbursed, what they overpaid, out of this fund. The House Committee on Foreign Affairs heard the arguments of the attorneys of these companies last week Thursday.

ONE of the provisions of the law granting land to the Agricultural colleges of the country is that they shall provide a course of military instruction of some kind. It has, however, been found that the portion of the endowment, which could be devoted to military instruction was so small that the instruction has been of little value. Dr. J. M. Gregory, of the Illinois Industrial University, at Urbana, Ill., was before the military committee of Congress last week Friday, and advocated an increase in the appropriation so that the several colleges might give efficiency to their military departments. He presented a plan agreed upon by a committee of the Agricultural Convention, which contemplates the appropriation by Congress of $15,000 a year to each college, to be expended in the employment of professors of military science. The plan embraces also the project of appointing annually a number of the graduates of each college who are most noted for proficiency, as cadets at West Point. There can be little doubt, it seems to us, that every college which receives the endowment referred to has felt that the military instruction which they have conveyed was scarcely worthy of the name, and that they could do no more with the funds at their command. There is an evident need that the institutions should either be relieved from giving military instruction or should receive aid sufficient to make that instruction of some value.

EDINBURGH UNIVERSITY AND WOMEN DOCTORS.

Those who read the article in our last issue in reference to the condition of the medical education of women in the University of Edinburgh, will remember that the University Court had been asked by the Senatus to revoke the resolutions by which women were allowed certain privileges as medical students, and that the former body had refused to take such action. It was also mentioned that care was taken in the action of the University Court not to express any opinion as to the right of women to proceed to graduation under those resolutions, or in reference to the power of the University to confer medical degrees on women. This latter clause, it seems, has inspired the friends of the movement in favor of female medical education in Edinburgh to further efforts to secure it. Miss Jex-Blake, the pioneer, and leader of the movement, and who seems to be a woman of energy and determination, whatever may be said of her skill and wisdom, argued that if the resolutions admitting women to certain privileges were not rescinded, all obstacles to their being carried out ought to be removed. The aim of Miss Jex-Blake and her coadjutors is, of course, to graduate at the University of Edinburgh as Doctors of Medicine, and they are straining every nerve to attain that end. The stick now is, it will be remembered, that certain of the professors of the Medical Faculty have refused to give separate courses of instruction to women, and without these they cannot graduate, as the University is at present constituted. In this emergency Miss Jex-Blake has laid before the Court certain papers setting forth the above facts and asking that body to do one of three things. These are; either, (1) to allow the women to obtain the instruction required by the regulations of the University from lecturers not connected with it, and then permit them to graduate, a privilege which is now granted in reference to four of the prescribed subjects of study; or (2) to authorize the appointment of special lecturers to give, in the University, qualifying courses of instruction in place of those professors who decline to do so; or, (3) to ordain that the professors referred to should themselves give the necessary courses of instruction to women.

To these requests the Court returned the following answer:

"The second course suggested is not in the power of the Court or other university authorities, singly or jointly, to adopt.

The third course is equally beyond the power of the Court. No professor can be compelled to give courses of instruction other than those which, by the use and wont of the University, it has been the duty of the holders of his chair to deliver.

The first of the proposed measures would imply an alteration in one of the ordinances for graduation in medicine. Such alteration can be made by the University Court only, with the consent, expressed in writing, of the Chancellor, and with the approval of Her Majesty in Council. But to alter in favor of female students, rules laid down for the regulation of graduation in medicine, would imply an assumption on the part of the Court that the University of Edinburgh has the power of granting degrees to women. It seems to the Court impossible for them to assume the existence of a power which is questioned in many quarters, and which is both affirmed and denied by eminent counsel. So long as these doubts remain, it would, in the opinion of the Court, be premature to consider the expediency of taking steps to obtain, in favor of female students, an alteration of an ordinance which may be held not to apply to women.

Though the Court are unable to comply with any of the specific requests referred to, they are at the same time desirous to remove, so far as possible, any present obstacle in the way of a complete medical education being given to women, provided always that medical instruction to women be imparted in strictly separate classes.

The Court are of opinion that the question under reference has been complicated by the introduction of the subject of graduation, which is not essential to the completion of a medical or other education. The University of London, which has a special charter for the examination of women, does not confer degrees upon women, but only grants them 'certificates of proficiency.' If the applicants in the present case would be content to seek the examination of women by the University for certificates of proficiency in medicine, instead of for University degrees, the Court believe that arrangements for accomplishing this object would fall within the scope of the powers given to them by section 12 of the Universities (Scotland) Act. The Court would be willing to consider any such arrangements which might be submitted to them."

With this answer the matter rests at present. What will be the next move of the women and their friends it is of course impossible to tell. A correspondent of the Dalhousie *Gazette*, from which much of the information here given is obtained; affirms that some speak of a suit at law, while others think of trying to induce the government to withdraw their annual grant until the university yields. From the spirit which has been exhibited all through the movement, however, we may almost certainly conclude that the matter will not be allowed to drop. Many difficulties have already been overcome and we may be pretty sure that the two remaining ones, viz., the obtaining of the requisite instruction and the concession of the right to graduate, will be most vigorously assaulted. We shall watch for developments with great interest. There can be little doubt, as it seems to us, that sooner or later the university will yield.

INTERNATIONAL COPYRIGHT.

The subject of an International Copyright Law, is at present receiving a thorough discussion and is likewise causing some definite action in places of authority. It is almost impossible to take up a paper at all devoted to literary matters without finding therein some reference to this theme. Either it is a report of a meeting of publishers, or of authors or a suggestion from some correspondent to help out of the difficulty, or an editorial, advocating one scheme or perhaps condemning another. This discussion is a noteworthy sign of progress and the difficult subject seems now in a fair way of receiving a solution; at least, much light is being thrown upon it whether we get from Congress a law upon the matter or not. We rejoice in this discussion and shall watch the action of our legislators with no common interest.

We do not propose in this article, however, any advocacy of either of the several plans proposed for the consideration of Congress, but shall try, simply, to present a brief resumé of the recent action which has taken place. Those who are familiar with the matter, are aware that it is by no means a recent subject of discussion, and that the present agitation is not the first, if it is the most general. We shall commence, therefore, with the meeting of publishers, held in New York, Tuesday, January 23rd. This meeting, assembled in the Trade Sales rooms of Messrs. Leavitt & Co., in response to a call issued by Messrs. Wm. H. Appleton and Sheldon Smith. About thirty were present and the meeting resulted in the appointment of a committee of five to draw up a bill, to be laid before Congress in the name of the New York publishers. The committee consisted of Messrs. Wm. H. Appleton, Isaac E. Sheldon, Edward Seymour, D. Van Nostrand and A. D. F.

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Randolph. This committee called a meeting of publishers on Tuesday, February 6th, in the rooms of the Mercantile Library Association. Invitations to attend this meeting were issued to fifty publishers, in New York, twenty-seven in Boston, and twenty four in Philadelphia, making a total of one hundred and one invitations issued. There were present at the meeting seventeen representatives of the publishers in New York, ten of those in Boston and none from Philadelphia, making nineteen in all. The committee appointed at the previous meeting presented both a majority and a minority report. The majority report was adopted as expressing the sense of the meeting, it receiving nine votes. The minority report received five votes on a motion to adopt it, four refused to vote at all, and the remaining one went away before the voting took place. After the adoption of the majority report, a committee was appointed, consisting of Messrs. Wm. H. Appleton, D. Van Nostrand and Isaac E. Sheldon to proceed to Washington, and endeavor to secure the passage of the bill which constituted the majority report.

But what were the tenor of these two reports? The majority report which was advocated by Mr. Appleton and agreed to by all the committee except Mr. Seymour, was an act, which provides: (1), that any foreign author may obtain a copyright just like a native author provided he enters into a contract with an American publisher to manufacture the book, whose title page must be recorded in the office of the librarian of Congress, within one month after its publication in the country of which its author is a citizen and must be for sale in the United States within three months from that publication; (2), that an American publisher, having published a book as above specified, shall have the same rights as are now conferred by the copyright law when the author is an American, provided, if such a book is out of print three months, he shall lose these rights; (3), that foreign newspaper articles may not be copyrighted under this act, but serials may; (4), that if a foreign author does not take the benefit of this act his work may be reprinted in this country just as before this act was passed. The minority report was presented by Mr. Edward Seymour, of the firm of Chas. Scribner & Co. It does not suggest any bill to be presented to Congress; but shows in an elaborate manner the objections to the bill proposed by the majority of the committee and requests that that report be not concurred in. The objections summed up briefly are: (1), that it is in no sense an international copyright law, but simply an act for the protection of American publishers, regardless of American authors; (2), that it would be practically inoperative, since an English publisher through an American partner could secure absolute control of the American market, whether the book was made here or in England; and (3), that it prohibits the importation of stereotype plates, fails to provide for the copyrighting of cyclopedias etc., and gives the American publisher power to exclude revised editions of works of which he may own the copyright. These objections, however, as before mentioned, did not prevail and the majority report was adopted.

It is proper to mention here that at this meeting of publishers, a memorial of British authors to Lord Granville upon the subject was presented. This memorial was signed by such names as Herbert Spencer, Sir John Lubbock, John Stuart Mill, J. A. Froude, Thomas Carlyle, and others, and expresses a desire for a copyright convention between the two countries, and approves of an arrangement which would vest the copyright of a work in its author—substantially the central thought of the plan proposed by the majority report.

So much for the action of the publishers in New York. But the authors have not been idle. On Friday February 2d., the Copyright Association, of which Mr. Charles Astor Bristed has for a long time been Secretary, adopted a draft of an international copyright bill to be presented to Congress. This bill is so brief that we give it in full, excepting the enacting clause:—

I. All rights of property secured to citizens of the United States of America by existing copyright laws of the United States are hereby secured to the citizens and subjects of every country, the government of which secures reciprocal rights to citizens of the United States.

II. This act shall take effect two years from the date of its passage.

This bill was presented by a committee which embraced among others the names of Henry W. Longfellow, Dr. Francis Lieber, George W. Curtis, and Wm. C. Bryant, among authors, and Messrs. G. P. Putnam, and Henry Holt among publishers.

Thus far our history of the movement has been confined to what has been done in New York city. But it is time now to see what has been done elsewhere. The Boston publishers have as a body taken no action, as far as we are informed. Two out of the twenty-seven invited, attended the publishers' meeting in New York, on February 6th., but beyond that they have watched the progress of the discussion rather than participated in it. But in Philadelphia the question has received earnest attention, and has called out definite action. It will be remembered that none of the Philadelphia publishers were present at the New York meeting. This seems to have been because they are opposed to any international copyright law whatever. On Saturday, Jan. 27th, a meeting of many interested in book-making in Philadelphia, including publishers, paper makers, type founders, etc., was held at the store of Messrs. Cowperthwait & Co. This meeting instructed a committee, of which W. P. Hazzard and T. E. Gaskell, with others, were members, to proceed to Washington and present to the Congressional Library Committee a memorial opposed to an international copyright law. This memorial set forth as the grounds of its opposition: (1), that thought until published is the property of the thinker; but when given to the world becomes free; (2), as property, thought can only demand protection from the country of which the thinker is a subject; (3), foreign authors bearing none of the burdens of this government ought not to expect its protection; (4), a reciprocity of copyright, while perhaps benefiting authors, sacrifices the interests of others; (5), giving foreign authors the power of fixing the prices of their works, gives them likewise the power of making them too costly for general circulation which is an injury to our people and a danger to republican institutions; (6) the New York bill makes the publishers and author a monopoly; (7) under this bill the great publishers on the Atlantic seaboard would get all the foreign publishing, by representing their superior advantages, thus creating a centralization to be avoided; and (8), that the reprints of valuable scientific works which are now furnished so low that day laborers can afford to buy them, would be raised by an international copyright law beyond his means.

These three plans then, have been proposed, to say nothing of those which have been suggested by correspondents to different newspapers and by editorials in the same. A portion of the New York publishers, with two from Boston, have prepared a bill which embodies their views, the Copyright Association, composed mostly of authors have done the same, and the Philadelphia publishers are opposed to any copyright law whatever. It only remains to note what has been done before the Congressional Committee by these several parties. Soon after the action of the Philadelphia publishers, as detailed above, the committee appointed proceeded to Washington and were given a hearing before the Congressional Committee. At the same hearing Gilbert Burling appeared in favor of the law, on the part of New York artists. The Congressional Committee then adjourned to February 12th. At this time another hearing was given to those interested, which occupied three long sessions of the committee The three plans proposed were each represented in the hearing. The committee of the New York Publishers, Messrs. Appleton, Sheldon, and Van Nostrand, presented the claims of the bill prepared by them; Messrs. Andrews and Bristed supported the claims of the authors and the Copyright Association; while Mr. Hubbard of Boston, and Mr. Hazzard, and others of Philadelphia opposed international copyright in any form. Letters were also received from Messrs. Harper and Macmillan & Co., opposing the measure. During the discussion those who represented the authors and Copyright Association, it is affirmed, seeing that there was no chance for their plan, and finding the objections to the New York publishers' plan not so great as they had supposed, gave in their adherence to this plan while before the Congressional Committee. Their position as modified reads as follows:

All rights of property secured to citizens of the United States of America by existing Copyright laws of the United States, are hereby secured to the citizens and subjects of every country, on condition that the authors enter into arrangements with American publishers for the manufacture of their work in this country.

The publishers also expressed themselves willing to yield minor points, provided the main one—that a foreign author shall make his arrangements with an American publisher—be retained. The public hearing on the subject was closed with the representations of these parties, and the Congressional Committe now have the matter entirely in charge. They were to begin the examination of documentary evidence last Monday.

LITERARY.

The "Handy Volume" edition of Dickens' works, now being issued by Messrs D. Appleton & Co., has reached its ninth volume. This contains Barnaby Rudge and Edwin Drood. For those who can read fine type without injury to their eyes, there can be few better editions of Dickens than the "Handy Volume" one. The books are gotten up in good style and the printing is clear and plain. Five more volumes complete the series. These will contain: Little Dorrit, one volume; Tale of two Cities, Hard Times, and Additional Christmas Stories, one volume; Bleak House, one volume; Great Expectations and Sketches, one volume, and Uncommercial Traveler, one volume.

The two somewhat celebrated Sermons delivered by Rev. Mr. Hepworth, previous to his withdrawal from the Unitarian denomination have been brought out in pamphlet form by D. Appleton & Co. The first sermon, it will be remembered, was delivered Sunday morning December 24th, and the second, Sunday morning January 7th. Together they form a pamphelt of forty-three pages, and they are nicely printed on heavy paper in large clear type. It seems well that these sermons should be thus put forth in a more permanent form, not less as a record of a remarkable change, than for their own intrinsic worth.

The Proceedings of the New England Historic Genealogical society at its last annual meeting in January, have been embodied in a good sized pamphlet of 38 pages, finely gotten up on heavy paper and issued by the society. The pamphlet contains a list of the officers of the society, a record of the proceedings at the annual meeting including the president's address, and a financial statement. The proceedings consisted of the submission of the reports of the various officers and committees and the address of the president. From the various reports it would seem that the society is in a prosperous condition. Five hundred and sixty-one bound volumes, and 1172 pamphlets were added to the library during the past year making a total in the library of 9.214 bound volumes, and 28,115 pamphlets. The library committee speak of a deficiency in works on general, local and family history of all the states of the Union; and in the extensive series of works relating to America, published in Great Britain, at different periods from the discovery of the Continent to the present time. A fire proof apartment has been constructed in the society's house for the protection of manuscripts and rare volumes. Three corresponding, and 100 resident members

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have been added to the society during the year. Sixty-six have during the same period constituted themselves life members. The report of the treasurer shows a balance to the credit of the society of $54,12. The necrology of the year shows a list of twenty, the last of which is Henry Theodore Tuckerman.

A Boy's Travels Round the World.*—This is a book written by a son of Samuel Smiles, a young boy whom sickness sent off on a trip to Australia, and who after his health was recovered returned to England by way of the United States. The material is taken from a journal kept by him on board ship and from letters written home to his relations, and is narrated almost entirely in his own words. He remained for a year and a half in Australia, and a large share of the book is devoted to his experiences there during that time.

The book is a rather readable one, of course containing nothing striking either in the way of information or reflection. But it will furnish a good deal of amusement for an idle hour, our chief objection to it being that the boy is not boy enough. He has, however, one very good notice of San Francisco, with which we take leave of him. "I was told," he says, "that some of the finest buildings were of the Italian order, but I should say that by far the greater number were of the Ramshackle order."

**A Boy's Travels Round the World.* Edited by Samuel Smiles. New York: Harper & Brothers. 1872.

The Old Back Room.*—Among the many excellent books for children, which have been issued from the American press during the present season, there are few the equal of the one before us. The characters are distinctly yet delicately delineated, and each plays an essential part in the narrative. The incidents are of unusual interest, being, as they are, of an unusual character. Separately, they are beautiful pictures—true to life—of some of the better phases of our nature. But while the volume possesses many attractive features, it is in the story that we find its principal excellence. The story books for very young readers, though interesting in many particulars, are seldom of any value as narratives. In this particular, the book before us is an exception, and one that is highly creditable to the author. Even the more mature readers of stories, will find in this volume events and characters of far more than ordinary interest, and many valuable lessons and suggestions for reflection. It is a book that might be read by all classes with pleasure and profit.

* *The Old Back Room.* By Jennie Harrison, Author of "On the Ferry Boat," &c. New York: Dodd & Mead, Publishers, (Successors to M. W. Mead.) No. 762 Broadway. 1872.

The Divine Tragedy.*—What particular motive prompted the poet Longfellow to produce this metrical version of the history of our Lord, it is hard to say. It is possible that the fancy for the representation in modern guise of the ancient miracle-plays, which he manifested in his poem of "The Golden Legend," may have been still further excited by the general interest which the Passion-play at Ammergau has aroused during the past few years. At any rate here we have a genuine imitation of the ancient miracle-plays, though somewhat less ambitious as regards the extent of its subjects than those. The Divine Tragedy is simply an account of the life of Christ, divided into three acts, each act including the incidents of one year of his life as a teacher on earth. The gospel narrative is followed very literally, the variations from the common account being but few in number and unimportant in character.

It is hardly necessary for us to say that the poem is marked throughout by the same quiet beauty, the same exquisite versification, and the same pure sentiment which have always formed a most marked characteristic of Longfellow's style. Nor to those who are familiar with his writings will it be necessary to add that it also shows a lack of the highest poetical power and force. Indeed of all literary work a tragedy of any kind seems to us least suited to Longfellow's peculiar genius. His strength lies in the portrayal of the domestic affections in the representation of the common incidents of daily life, in the tender and to a certain degree common-place associations which are connected with the home and the fireside. Least of all our chief modern poets is he fitted to express those great heart-crushing or soul-stirring feelings which tragical representation requires. True, in the present poem he has not attempted to do it. His is nothing but a calm, quiet, unimpassioned account of the events of the Saviour's life. But his subject requires such tragical representation. The reader, who has not been informed before-hand what is coming, expects to find it, and is saved from the disappointment of having it done imperfectly by not having it done at all. From the very nature of the subject he is forced to leave out everything which has a directly human interest, outside of those grand interests which are necessarily involved in the coming itself of the Saviour. But no such story as that of Prince Henry and Elsie in the Golden Legend could without gross impropriety be made a main part of a poem dedicated to a subject like the present one, nor necessarily could there be any incident introduced in the tale such as that in which the abbess Irmingard tells of her love and misfortunes. Wanting the human interest, lacking the moving tragical power, the poem contents itself with simply narrating the leading events in the life of Christ—pleasantly, sweetly, to be sure, but for all that in no way to be compared with the story as told in the Bible itself. The long and short of it is, we think that Longfellow has made a mistake in the choice of his subject that his reputation will in no sense be advanced by it; though we do not deny that it is full of many pleasant passages, which will be agreeable to read once, though not attractive enough to cause one to return to them.

* *The Divine Tragedy.* By Henry W. Longfellow, Boston. J. R. Osgood & Co. 1871.

ALUMNI REUNION.

WESLEYAN ALUMNI IN NEW YORK.

The fourth annual reunion of the N. Y. Wesleyan University Club took place last evening, at the house of Daniel Drew, the millionaire broker, in Union Square. About three hundred "of the people called Methodists," of both sexes, were present, by invitation. It was a reception as well as a reunion, and each and every one was welcomed by Mr. Drew, in a hearty and brotherly manner. The parlors were crowded, not with people plain in dress and education, but with beauty, and elegant attire, and intellect in all its brightness, and grace in all its spiritual attractiveness.

Like all meetings of the kind, this reunion afforded an opportunity to the Alumni to live over again their university days, in imagination and reminiscence. The hour that preceeded the supper was spent in pleasant conversation, chiefly of a lively and amusing character. The ladies listened, some of them with surprise and some with amazement, to accounts of the pranks and peccadillos of their "lords of creation," whom they had hitherto regarded as Cæsar wished to have his wife, "above suspicion." They enjoyed "the fun of the thing," however, and added not a little to the pleasantry of the occasion, by their own sprightly comments, many of which were in the highest degree appropos. On all sides wit and humor abounded.

Among the alumni present, were the following gentlemen of distinction:—Dr. Joseph Cummings, President of the University; Mr. W. Camp, Treasurer of the University; Mr. C. C. North, President of the Board of Trustees; Dr. Strong, of the Drew Theological Seminary; Rev. S. L. Baldwin, Missionary from China; Rev. Daniel Curry, editor of the *Christian Advocate*; Dr. Crooks, editor of *The Methodist*; Dr. Holdrich, Secretary of the American Bible Society; Judge Reynolds, of Brooklyn; Dr. Cranford, Dr. Foss, Dr. Andrews, Bishop Janes, Professor C. S. Harrington, Professor William C. Rice, Professor Lane, Mr. Orange Judd, Dr. Kidder, Dr. King, Mr. Charles R. North and Dr. Bradford K. Pearce.

The supper was a most admirable thing of its kind, and gave immense satisfaction. At least, all seemed to do ample justice to "whatsoever was set before them," and "asked no questions," perhaps "for conscience's sake," though, more likely, because there was no room for objection. There were a few quiet comments, which invariably assumed the pleasing form of eulogy.

The enjoyment of the creature comfort, which seemed to add to the liveliness and merriment of the occasion, was followed by toasts and speeches from some of the more noted of the guests. Dr. Pearce acted as toast-master, without any previous arrangement, of a small circle of the alumni occupying the center of the parlors. With a great deal of readiness and tact, he improvised a programme for speeches, thereby adding largely to the general gratification. The speeches were manifestly extemporaneous, but acceptable, being short, pleasant, and to the purpose.

It would be impossible to give a full report of the speeches as delivered, without occupying to much of the valuable space of your paper. I may, however, mention the substance of what was said by three or four of the principal speakers, after noticing that a few introductory remarks of a very appropriate character, were made by Judge Fellows.

The first speech of any importance was delivered by Dr. Cummings, who acknowledged how largely the University had been indebted to the Alumni for gifts and other valuable assistance. He made especial mention of the late lamented Isaac Rich, who, in his life time, had done so much to advance the interests of education. His allusions to this great benefactor were marked by the evidence of much feeling, and his expressions were full of gratefulness. He knew how strongly Mr. Rich had sympathized with the objects of the Wesleyan University, and how near to his heart lay the prosperity of that institution. Alluding to the future of the University, he expressed the strongest faith in its complete success. Among other things of importance, he strenuously advocated the making of the present educational institutions strong, and if possible of a higher character. He deprecated the tendency of the age, to the multiplicity of new institutions, which, if they ever survive, must have but a sickly and miserable existence. His sentiments on these points were received with evident approbation.

Dr. Cummings was followed by Bishop Janes, in a speech of much force and eloquence. He began by reference to the connection which the University had with his earliest Methodist experiences. From the day when he connected himself with the Church, there was no institution in which he felt so strong an interest, as the Wesleyan University. As to its future, there ought to be but one feeling, and that should be the largest faith and the strongest confidence. Then, in speaking of the prosperity of the University, in connection with the national progress, he ventured upon the following prophecy: that there were more than twenty persons present in that room, who would live to see the population of New York as large as that of London. If they look upon the the globe, he said, they would see that New York, San Francisco, Shanghae, Bombay and London, would be the five commercial centers of the world. The Lord of Nature and Grace had evidently made it so, and no legislation could prevent it—circumstances could not prevent it. The future of this University must be contemporaneous with the growth of New York, and it was the duty of the Alumni to so regard it. He concluded with an earnest appeal to the churches to prayerfully and earnestly do their duty in this matter.

Another of the speeches worthy of especial mention, was that of Orange Judd, one of the principal benefactors of the University. He was unexpectedly called upon; he said so, and there was no doubt of it; but he

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delivered an earnest and practical address, in which he urged the great need of strengthening the institution. He ventured the assertion that there was not another educational institution in the world, of which so large a percentage of its graduates had become useful, honored and leading men. He believed that it would not be possible by the gift of five millions of dollars, to build up an institution like unto that which they possessed in this University. All that was wanted to make it the "Oxford" of America, was to place the institution on a self-supporting basis. This he urged as a duty on all present, and upon all the members of the Methodist Church.

A poem was recited by Dr. Joseph E. King, Principal of Fort Edward Institute, under whose instruction, and in whose school, the senior publisher of this journal, if I mistake not, laid the foundation of his academical education. The poem, of which the following is a copy, was beautifully read, and brought forth peals of laughter and the heartiest applause:

TO THE FATHERS AND FOUNDERS OF WESLEYAN UNIVERSITY.

I give a grateful sentiment to-night—
The illustrious names which make our annals bright,
Founders at once of Wesleyan walls and wealth—
God grant her noble benefactors health!
We pause and sadly mark one vacant place;
No more, alas! we see that regal face;
But in our hearts he fills a grander niche,
By grace and Providence, by name and nature, Rich.
The spoils from every sea came to his net,
With silver in their mouths to pay our debt;
Not in cold marble only shall he live,
Who taught his generation how to give.
In earliest need did Israel's faithful keeper
Wake from his slumbers up our worthy Sleeper.
Of friends sore needed, and both stauch and true,
A weighty name our annals often knew—
That Prince of Brokers, generous Daniel Drew.
Forth from the den of savage bulls and bears
Our Daniel comes, dispensing golden shares.
No stock of his, nor ship which treasure brings,
But pays commission to the King of Kings.
To lift us from the old starvation ruts,
We had betimes the juiciest of Cutts.
The while, to eke her flagging spirits out,
Old Alma Mater quaffed a draught of Staut.
A lately, when both nerves and purse were spleeny,
What a fine tonic proved that dose of Seeney!
Long shall our goodly Dame defy the undertaker,
If still supplied with loaves from such a Baker!
Who will deny?—for I was there and saw it—
The salaries advanced upon a hint from Hoyt?
And now, a miracle! lo! Aaron's rod doth bud,
And on our Campus blossoms Orange Judd.
To show the way to deeds of princely worth,
Our steadfast needle points still to the North.

Ne'er may she lack for eloquent expounders,
But God be thanked for Wesleyan's honored founders.
May Time touch lightly every generous friend,
Late to the stars, oh! may they each ascend;
Late and triumphant scale the heavenly hills,
And e'er they go—have time to make their wills.

A number of short speeches followed, all of which added to the pleasures of the occasion, but a lack of space precludes anything like a report. It was not until a late hour that the proceedings were brought to a close, and the large company dispersed. Altogether, it was perhaps the pleasantest reunion ever enjoyed by the club. T.

New York, Feb. 16, 1872.

COLLEGE RECORD.

Westfield College, (Westfield, Ill.)—This institution, established in 1861, is situated in the pleasant village of Westfield and is said to be entering upon a course of prosperity. It has a substantial brick building, forty by one hundred feet in dimensions with extensions seventeen by forty feet on either side. It embraces, besides an ample number of recitation, music, writing, library, and literary society rooms, a convenient lecture-room, and also a commodious chapel. A campus of about five acres contains the buildings, and is, for the most part, a beautiful grove.

Homeopathic Medical Institute, (Lansing, Michigan).—The Central Michigan Homeopathic Medical Institute was organized about a year ago, embracing the homeopathic practitioners of eight counties, about 40 in number. Its object, as stated in its constitution, was "to establish a school of medicine and surgery, wherein shall be taught the true science of medicine, *similia similibus curantur*—together with surgery and the collateral sciences; and generally to promote fraternal fellowship, supervise and advance the professional interests of all members." The Institute recently held its first annual meeting in the college building in Lansing, about 25 being present. The exercises consisted of the reading of papers, etc., and some discussion and action in reference to founding a new college in Michigan. The following resolutions were unanimously adopted as expressing the sense of those assembled, upon the point at issue:

Resolved, That this convention of homeopathic physicians in the State of Michigan lay aside all the past history of homeopathic polity so far as it has been mixed up with discord and factious strife, and lay down the following platform as representing our present position:

First, That the day for fighting of a single professorship at the Ann Arbor Medical Department of the University has passed; that no one man can properly teach the science of medicine homeopathically, as essentially developed in *all* the collateral sciences; therefore we demand a full Faculty of medical teachers with equal privileges and support with those of the department already established, said school to constitute a branch of the University of Michigan.

Second, That the location of such a college is a secondary consideration, and that it is our sentiment that such city should secure it as will offer the most financial assistance; that we recognize the policy of a present college organization to teach homeopathy under the eyes of the Legislature at Lansing, and are proud of its success.

Third, Believing the organization of a branch of the University for homeopathic medical instruction will meet the favor of the Board of Regents, therefore we respectfully solicit their co operation in the Legislature to secure assistance to establish such an institution.

Fourth, That the Committee on Homeopathy in the University be instructed to draw up a bill embodying the essential features of these resolutions and present it to the Legislature urging its passage by all honorable means in their power.

The following resolution was also adopted:

Resolved, That we will not countenance or approve of any homeopathic college that grants diplomas to any candidates except after having passed a careful examination, and shown a certificate of three years' study and at least one full course of lectures.

Western University of Pennsylvania, (Pittsburgh, Penn.)—Fifteen years ago the Western University of Pennsylvania existed, almost entirely in name only. The institution has a history of about fifty years duration but its life was feeble and nearly extinct at the time mentioned. But the University has had a regeneration, and a new lease of life has been breathed into it by its efficient president Rev. George Woods, D.D. assisted by the friends whom he has drawn to his aid. It now has a good sized building in Pittsburgh which was erected in 1855–56 and is situated at the corner of Ross and Diamond streets. The building contains sixteen rooms, some of which are used for recitations and others for the library, apparatus, and societies. The University has ten professors, and four instructors in the preparatory department, besides the law professors. It has also ten acres of land in Allegheney upon which is situated the Observatory building. Besides these it has a fund of $150,000. But those who are interested in this University are not satisfied with its present condition. The present building is to small and further growth is checked unless some advances be made. It is accordingly proposed, as soon as possible to create and endow the following chairs: 1. Metalurgy; 2. Mechanical Engineering; 3. Applied Chemistry; 4. Agricultural and Analytical Chemistry; 5. Industrial Mechanics and Physics; 6. Physical and Political Geography; 7. Technology; 8. Political Economy and International Law; 9. Oratory; 10. History, Ancient and Modern; 11. Natural and Revealed Religion; 12. Painting and Design; 13. Moral and Mental Science; 14. Modern Languages. But the plans of the friends of this enterprise do not stop here. New Buildings must be erected, new apparatus furnished, and endowments procured. To carry out these designs the following estimates have been made: New University building, $250,000; Building for Medical School, 70,000; Preparations, apparatus and library for same, $30,000; Endowment, $100,000; Endowment and library for Law School, $100,000; Dormitories for students, $50,000; Professors' Houses, $100,000; Endowment for Charity fund, $100,000; do. for prizes, $10,000; apparatus $10,000; Library $10,000; and 14 professorships, $550,000. Total $1,390,000. Whether this sum can be obtained or not remains to be seen, but the University has warm friends and without doubt substantial efforts will be made in its behalf.

Columbia College, (New York city.)—In an article in a recent number of the *Tribune*, taking exceptions to a statement in a previous number of that paper, to the effect that unless the college can prove itself poor, it would not be allowed by the legislature of the State to remove from its present position, we find the following statement: Until the year 1867, the annual income of Columbia College had not been equal to its annual expenditure for more than 30 years, with the exception of the single year 1863, when there was a slight surplus. During all that time the college also labored under the burden of a heavy debt. So lately as 1855, the annual net income (the income less taxes, assessments, and interest on debt), was only $15,000, and the debt at the same time amounted to $82,500. In 1859, the net income was less than $26,000, and the debt was over $44,000. But the improvement of the immediate and prospective condition of the college was at this time such as to induce the trustees to establish the Law School which has proved so signal a success, and to offer to the public a plan of post-graduate instruction, for which the country seemed then as yet hardly prepared. When, in 1864, the income had risen to $50,000, the School of Mines was opened, a branch of the institution which has proved a very valuable addition to the means of scientific education in the country. Graduates of this school are now engaged in many important works of mining, metallurgy, and civil engineering in different parts of this country and in Mexico, and several of them fill chairs of instruction in colleges of high reputation. As their means have increased, the trustees have continued to apply these means faithfully to the improvement of the institution in all its departments. The buildings now occupied by the college were not erected for collegiate purposes. They are inconvenient, and the accommodations they afford are inadequate to its constantly growing wants. The site itself, independently of the enormous nuisance in its neighborhood, is objectionable on account of its insufficient area. The college asks to be permitted to erect proper buildings (which it has not now) in a more suitable neighborhood. For the past five years it has had an annual surplus in the treasury, averaging about $23,000. This the Trustees are carefully husbanding, in the hope, by gradual accumulation, to acquire a fund sufficient for the erection of a building. When it is considered how much a suitable collegiate structure, though built with the extremest simplicity, must cost, it will be manifest that the college is to poor to build at present. It is, of course, too poor to buy another site, except with the proceeds which may arise from the sale of the present one.

State Agricultural College, (Hanover, N. H.)—One of a series of meetings which the State Board of Agriculture are holding during the winter to discuss topics of interest to farmers was held in this place, commencing Tuesday evening, Feb. 13th, and continued through the next day and evening. The sessions were held in "Culver Hall," the Agricultural College Building. The exercises Tuesday evening consisted of an address of welcome, by Dr. Asa. D. Smith, President of the College, with a response by Hon. Moses Humphrey, Chairman of the Board; after which Prof. E. W. Dimond, of the college, occupied an hour and a half, with a lecture upon the "History and Chemistry of

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Artificial Light." The lecturer traced the improvements in the means of lighting from the pine knot down to the present gas-light, exhibiting the various forms of apparatus for lighting, some of which were very antique; as the Professor entered upon the explanation of gas-lighting, he turned on the gas and the Hall became beautifully illuminated, to the great delight of the audience, for it was the first lighting by gas in Hanover; he then explained the manufacture of gas and its combustion, giving some particulars of the gas works here. Many experiments were interspersed throughout the lecture, adding much to its interest.

At the second session of the Board held Wednesday morning, Dr. Mason of Moultonborough, read a very able essay on "New Hampshire as a Farming State;" this was followed by a lively discussion upon corn raising, participated in by Mr. Pattee of Warner, Col. Weare of Seabrook, Mr. Walker of Concord, Col. Clough of Canterbury, and others. During the morning session, Mr. Smith, chairman of the delegates of the "Franklin Harvest Club," of Mass., who were present at all the sessions of the Board, gave a very entertaining and instructive account of the cultivation of the tobacco plant in Mass., and the profits arising therefrom.

At the afternoon session, Mr. S. C. Pattee read an interesting paper on "Wheat Culture," which was followed by a discussion; the remainder of the afternoon was spent in the consideration of the subject of stock raising, and much interest was manifested in this topic. In the evening the chairman read an essay on the "Construction and Repair of the Highway," and this was followed by a very interesting and instructive paper on "Forestry," by Mr. Walker, of Concord.

The Board of Trustees of the Agricultural College held a meeting on the 13th and 14th, and were present at some of the sessions and took part in the exercises. The Board have decided to erect farm buildings the coming season, and are considering the appointment of a farm superintendent. Many subjects of importance to the college and the State were thoroughly discussed, and good results to the Agricultural interests of the State are anticipated from the meeting last week. F.

Richmond College, (Richmond, Va.)—Very soon after the war the trustees of this institution determined upon a reorganization upon a different basis and after mature deliberation, what is known in Virginia as the "University System," was adopted. Some of the peculiarities of this system are, that to the faculty, as a body, are intrusted the internal management of the Institution, and all measures of discipline and government. There is no president, such a superior not being found necessary. From the Faculty is annually chosen a chairman as the executive officer. No professor has any preëminence in rank or salary. All are coequal, and the system is said to work admirably.

For instruction, the college is divided into distinct or independent schools, equivalent to special colleges. The Professor of each school has the supervision and control of the course of study and method of instruction. He is separately responsible, and thus stimulated to diligence and enthusiasm, knowing that whatever success is won enures to himself. Diplomas are conferred for satisfactory attainments in the leading subjects taught in each school. The school diploma means proficiency in that particular school, and nothing more. The degree of Bachelor of Arts is conferred upon the graduates in the several schools. Master of Arts is not conferred in course, or by special favor, but upon those students only who have obtained diplomas in all the schools, thus securing on the part of the possessor of this testimonial unquestioned liberal culture. Instead of adhering to a prescribed curriculum, a course largely elective, giving choice of subjects and teachers, is allowed, the student being restricted to such classes as his previous education shall have fitted him to enter upon, and required to take three schools. The records of the college do not confirm the prevalent opinion that an elective course degrades classical scholarship. The percentage shows an increase of those who study Latin and Greek. In 1866–7, eighty per cent. were in the School of Latin; in 1868–70, eighty-five per cent.; in 1871–2, ninety per cent. All students with the ministry in view have gratuitous tuition. Ministerial students from Baptist churches in the state have their board provided free of charge. In 1866–7, there were twelve ministerial students; in 1867–8, twenty-eight, in 1868–9, thirty; in 1869–70, thirty; in 1870–1, thirty-three; in 1871–2, thirty-eight. By a popular and economical system of messing clubs, the board for the resident students is reduced to cost, averaging less than $9 per month.

The college suffered quite severely by the war, losing its apparatus, library and endowment. It is gratifying, therefore to state that the success of the effort to again establish it on a firm basis is surpassing the expectations of its friends. So well have their, plans worked that the accomodations are now insufficient. An enlarged library and additional buildings for society halls, lecture-rooms, a chapel, etc., are greatly needed. Recently $10,000 were subscribed in Richmond, and Judge DeLand, of New York, gave $3,000 more, but $50,000 are said to be required for immediate use.

Yale College, (New Haven, Conn.)—The news of the week at Yale presents quite a number of items of interest:

THE WOOLSEY FUND.

We learn that this fund is making steady progress and there is good reason to expect in due time the collection of the amount contemplated. The latest subscription of which we have heard is one for $1,000 from Hon. Edwards Pierrepont, (Y. C. 1837) late United States District Attorney of New York.

SOPHOMORE COMPOSITION PRIZES.

The following prizes have been announced for excellence in English composition in the Sophomore class:—

1st—O. F. Aldis, Brattleboro, Vt.; T. W. Grover, Chicago, Ill.; E. W. Southworth, New Haven; A. D. Whittemore, New York city.

2d—E. R. Dunham, Bridgeport; T. F. Leighton, Newfoundland, N. J.; H. H. Ragan, Turin, New York; A. Wilcox, New Haven.

3d—E. L. Curtis, Rockford, Ill.; G. F. Doughty, Cincinnatti; J. C. Sellers, Philadelphia; John W. Peck, Brooklyn; and T. P. Wickes, New York.

The successful writers made the following choice of subjects:—"Woodsworth and his Friends," Doughty, Dunham, Grover, Sellers and Southworth; "Organization of Labor against Capital," Aldis, Leighton, Ragan and Whittemore; "Decay of the Mohammedan Power," Curtis, Peck and Wilcox; "Respect for Precedent," Wickes.

At the meeting of the Connecticut Academy in the library of the Scientific School last Wednesday evening, Prof. O. C. Marsh gave a rapid sketch of the Yale Exploring Expedition of 1871. The account was deeply interesting, and was listened to with close attention.

The surveying operations which had been begun on the grounds recently presented to the college for the Winchester Observatory were stopped by the snow but have now been resumed. The survey is made with the plane-table under the direction of Mr. Bache, of the U. S. Coast Survey. The senior engineers in the Scientific School assist in the work and are thus afforded an opportunity for practical work with the plane-table. The use of this instrument has hitherto been confined almost entirely to government purposes, but its advantages for topographical surveying are so great that it is rapidly coming into general use. The one now in use by the Scientific School is of the most improved style, and was procured last summer.

Among the changes in studies in the Scientific School we notice the adoption of Stoney on Strains by the senior engineers, taking the place of the lectures on bridge construction usually given at this period by Professor Norton. The Junior select students will soon begin the critical study of Shakespeare, and the Seniors, that of Dryden. The select course has been changed and modified, more than any other distinct course in this department, especially in connection with the study of English literature. Professor Lounsbury who began his system of instruction with the present Senior class, has succeeded in bringing order out of chaos and is establishing a course of instruction in English that renders this course more profitable and interesting than it has ever been.

The Mechanics Course of Lectures has been revised somewhat. Professor S. W. Johnson lectures Monday, February 26th, on "Phosophorus," and Rev. B. G. Northrop, Thursday, February 29th, on "The Mechanics of Europe." Otherwise the remaining lectures will be given as previously announced. It is stated however, that two extra lectures may be expected, one from Coleman Sellers, Esq., President of the Franklin Institute in Philadelphia, on "The Transmission of Motion;" the other by Capt. C. E. Dutton of the Ordnance Department. U. S. A., on "Gunpowder." The time of these lectures will be announced.

There seems to be an unusual interest in lectures at Yale this winter. The lecture of Prof. D. Cady Eaton, last Monday night in the Art Gallery upon "The Mansolem—Pratiteles—The Venus of Milo;" and that of Prof. Daniel C. Eaton in the Mechanics Course at the Scientific School upon "Our Common Weeds," were both well attended.

Rev. Professor Henry Ward Beecher delivered his two customary lectures on "Preaching" in the Marquand chapel last Wednesday and Thursday afternoons. The chapel is always filled.

Professor Dwight delivered the sixth of the course of the Boston lectures on "Christianity and Scepticism" last Sunday evening, in the Old South Church, Boston. His theme was "The Fourth Gospel; its Record and Testimony of the Inner life of its Author." The lecture was, according to custom, repeated Monday afternoon.

Professor Hoppin has commenced his lectures to the law students upon English Composition and Style.

Many rumors having been floating around the country to the effect that ex-President Woolsey is engaged upon a work on Political Economy, it may be proper to say that there is no foundation for the report.

A writer in the *Yale Courant* proposes a change from Choir to Congregational singing in the chapel at morning prayers and Sunday services. The change strikes us as being a very desirable one.

The base ball prospects for the coming year are thus summed up by the *Yale Courant*:—Our Sophomore base ballists have successfully weathered the dangers which beset them, and can all three, without reasonable doubt, reappear in their old positions next summer, a matter of no little comfort to the college in view of past anxieties, doubts and efforts. Secondly, the pecuniary affairs are in excellent condition, the debts of the past year liquidated in full, (including the personal base ball expenditures of each member of the club incurred through his position on the Nine) the pitching alley completed and paid for, and enough money will soon be on the subscription books to see the Nine safely through the coming season. Lastly our Nine virtually remains intact and can bring an additional year's muscle and experience to bear against our old antagonists; the faculty are well disposed toward us; and in the Mans field B. B. C. as newly organized, we shall have a good Nine at a convenient distance, from which to obtain valuable practice.

Next May will be the Semi-Centennial of the establishment of the Theological Seminary of Yale. The occasion will be suitably celebrated. Invitations to be present will be extended to all its alumni, and papers will be read and speeches delivered by notable men.

Dr. Washburn delivered according to announcement, the sixth of the Berkeley Sermons at Trinity Church last Sunday evening. His subject was "The Historic Christ," and the discourse was perhaps the finest intellectual effort of the course. The church was filled as usual. The seventh of the sermons will be preached

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next Sunday evening by the Rev. Noah H. Schenck, D.D., of Brooklyn. Service at 7.30 and seats free.

The faculty having laid a new walk between the Athenæum and South Middle for the benefit of the freshmen.

An effort is to be made to survey the racing course at Lake Saltonstall upon the ice.

The Seniors have begun Geology during the past week under the auspices of Prof. Dana.

The Judges who award the Porter prize have been selected as follows: The President chooses Professor Salisbury and Fisher; the Association, Ex-President Woolsey. Articles are to be handed in during the first week of next term.

The sixth lecture of the Mechanics Course, delivered last Thursday night in the Scientific School building by Prof. W. H. Brewer, was a clear and thorough elucidation of "The United States Weather Signal Service." The lecture was one of the best of this popular course. The audience listened without apparent weariness and with closest attention for nearly two hours. Quite a number of the State board of visitors were present.

YALE PERSONALS.

'20, BACON.—A reception was given to the Rev. Dr. Bacon, in the Centre Church Chapel last Monday evening, on the occasion of his seventieth birthday. Many of Dr. Bacon's personal friends in the Centre Church were present, and others with whom he has been long associated. The rooms were beautifully decorated, and in the Sunday school room a collation was prepared by the ladies of the church. The exercises were entirely social, pleasant remarks, however, were made by Dr. Bacon, Dr. Walker, Rev. Mr. Eustis, and others.

'28, '32, DAY, COLTON.—Rev. Henry N. Day, D.D., was recently elected President of the United Ministers meeting of New Haven and vicinity, for the ensuing year. At the same meeting Rev. Erastus Colton was elected Secretary for the same period.

'38, THOMPSON.—Dr. J. P. Thompson, who recently left New York for Europe, has been invited to Berlin, to deliver a course of lectures in the Hall of the University upon the "Constitutional History and Civil Polity of the United States."

'39, BURR.—Rev. Enoch J. Burr, D.D., pastor of the Congregational church in Lyme, has been invited to lecture in Williams College and in the University at Lewisburg, Pa.

'43, HALL.—Rev. Gordon Hall, D.D., preached the sermon at the dedication of the new Edwards church, Northampton, Mass., Feb. 8th. This new and elegant edifice takes the place of the one burned nearly two years ago. Dr. Hall has been pastor here for twenty years. Of his predecessors in the pastorate three are still living: Rev. John Todd, D.D., of Pittsfield (Yale '22), Rev. E. P. Rogers, D.D., of New York (Yale, '37), and Rev. Prof. George E. Day, D.D., of New Haven (Yale, '33).

'44, WASHBURN.—The name of Governor Wm. B. Washburn of Massachusets, was used by the Convention which lately met at Cincinnatti to secure a religious amendment to the Constitution of the United States, as the first in its list of vice-presidents. The Governor, however, says that he had nothing to do with the convention, and that his name was used without his knowledge.

'44, WILCOX.—Prof. Cyprian P. Wilcox, formerly of this city. has been appointed to the chair of modern languages in the University of Georgia, at Atlanta, Ga.

'47, BROWN.—The Lexington *Caucasian* hoists the name of B. Gratz Brown, for President.

'50, TUPPER.—Rev. Henry M. Tupper, recently of Waverly, Ill., has accepted a call to the Congregational church at Ontario, Ill.

'53, WHITON.—Rev. James M. Whiton was installed pastor of the North Congregational church in Lynn, Mass., on Tuesday, Feb. 13th.

'54. DORMAN.—Rev. Lester M. Dorman, formerly pastor of the First Congregational church in Manchester, Ct., was recently admitted to the order of Deacon in the Protestant Episcopal church by Bishop Williams of this diocese.

'55, MULFORD.—M. E. Mulford, author of the book which appeared some time since called "The Nation" has a two column and a half article in last week's *Independent* upon "The Omitted Rules for the Civil Service Reform." In the same paper ex-President Woolsey, discuses "The American Case" before the Geneva Commission.

'57, TYLER.—Moses Coit Tyler recently delivered a lecture on "A Night and a Day in Congress" in Palmyra, New York. The Palmyra *Courier* represented the effort as very eloquent and very satisfactory.

'59, SMITH.—Mr. Eugene Smith, valedictorian of his class, took "highest honors" a second time in New Haven, by his marriage on February 21st., to Miss Katharine W. Bacon, daughter of Rev. Dr. Bacon. The ceremony was impressively performed by the bride's father, and was attended by quite a number connected with the college and several classmates with their wives The newly-married couple left for Philadelphia soon after the ceremony.

'62, MURRAY.—The Mother of Rev. W. H. H. Murray of Boston, died Feb. 10th at her home in Guilford.

'65, ALLEN.—Rev. Simeon O. Allen, recently of Lansing, Mich., has accepted a call to the Congregational church at Pontiac, Mich.

'65, STORRS.—The health of Rev. R. S. Storrs, Jr., D.D., is so far restored that he preached at Dresden recently, and there is every promise of his speedy return to Brooklyn.

'69, ALGER.—William G. Alger recently arrived in New York on the Steamer "Rhine," from Bremen. He went out in September 1869, upon the same steamer, and has devoted himself since then to the study of the German language, law and literature,—residing most of the time at Bonn-on-the-Rhine.

'69, SCOTT.—Frank A. Scott, after a year at Berlin (where his address is "No. 1, Kanionier Strasse, III."), returns in April to Leipzig, at whose university he will continue his historical studies for several months thereafter. He will probably return again to America in the Summer of 1873.

There is quite a coterie of Yale men in Morristown, N. J. Rev. Wm. G. Sumner, '63, is preaching there with great acceptance, and is winning, we are informed, an "excellent reputation." He is also engaged in translating from the German a portion of Lange's Commentary—the part on II Kings. There are also at Morristown, Francis E. Woodruff, '64, who has just returned from China; John B. Wood, '65; George L. Wright, '67; L. E. Condict, '69; and W. W. Perry, '71. G. H. Wynkoop, formerly of '64, is lecturing at Morristown, on Physiology, before a Female Seminary.

GLEANINGS.

PERSONAL.

— Prof. D. H. Wheeler and wife, of Evanston, started February 12th, for Aiken, S. C.

— Professor Ryder, of Oberlin College, has received a call to a church in Brownhelm, Ohio.

— Sir Wm. Stirling Maxwell was installed Rector of the University of Edinburgh, February 5th.

— Dr. Paget has been appointed Regius Professor of Medicine, at the University of Cambridge, England.

— Prof. Herrick of the Bangor Theological Seminary has sailed for Europe and the East, to be absent about eight months.

— Prof. W. T. Thistleton-Dyer, has resigned the professorship of Botany, in the Royal College of Science for Ireland, and that position is now vacant.

— Prof. R. D. Hitchcock, of Union Seminary, New York, is president, and Rev. Jas. H. Dwight, of Englewood, N. J., is agent for the American Palestine Exploration Society.

Hon. Francis L. Cardozo, a colored man, and graduate of Oxford, England, late Secretary of State for South Carolina, has been elected Professor of Latin in Howard University.

— The Rev. Francis L. Patton, the successor of Dr. Spear, has reconsidered his declinature of the professorship in the Presbyterian Theological Seminary in Chicago, and will shortly enter upon its duties.

— Professor Henry A. Ward, of the University of Rochester, who accompanied the Grand Duke Alexis on his Buffalo hunt, has returned. He and his assistants killed quite a number of buffalo whose skeletons and skins are to adorn the museum in Rochester.

— The Faculty of Emory and Henry College has undergone considerable change, Dr. Luther M. Smith retiring from the presidency and Dr. Clark vacating the chair of Latin. The Hon. W. H. Chambers, once president of the Alabama State Senate, succeeds to the presidency, and Rev. Dr. Callaway to the chair of Latin. Mr. John M. Doggett has been elected to the chair of Greek.

— Prof. Charles A. Lee, who recently died at Peekskill, N. Y., gave instruction during a long series of years in the following institutions: The medical schools of the University of New York, and Bowdoin College, Brunswick, Me.; the Berkshire Medical School at Pittsfield, Mass.; and the Medical Colleges at Geneva, N. Y., Woodstock, Vt., Columbus, Ohio, and Buffalo, N. Y. He was one of the founders of the Medical College of the University of New York, the Northern Dispensary in that city, and the Buffalo Medical College, in which he was Professor Emeritus at the time of his death.

COLLEGE.

— Prince Hassan, son of the Viceroy of Egypt, has arrived in Oxford with his oriental suite to resume his studies at the university.

— The number of women studying at the University of Zurich has so greatly increased of late that they now form a tenth of the matriculated students.

— The West Virginia University at Morgantown, wants a professor for its chair of geology and chemistry. The salary is $1,200 and living is said to be very cheap.

— John Hopkins, of Baltimore, proposes to establish a University on the outskirts of that city. He offers nearly eight million dollars for that purpose, and will have the institution take his name.

— It is affirmed that all the faculty of Franklin College, at Franklin, Ind., have resigned and that the institution is closed. H. S. Wayland, son of Dr. Wayland, former president of Brown University was president.

— Ezra Cornell has purchased and presented to the Cornell University, a set of the Palæontological casts made by Prof. Ward, of Rochester, identical with the set in the possession of the Society of Natural Sciences of Albany.

— The Roman Catholics of Ireland want a university, but do not want to pay for it. The priests have been able to collect for this object during the last year, but $25,000 from the whole of Ireland. Dublin has subscribed $2,000.

— Five gentlemen, familiar with real estate matters in Hartford, have estimated the value of the Trinity College property at from $300,000 to $380,000, basing their estimates on what it would be worth to-day for building purposes.

—Mr. Ruskin's munificent offer of $25,000 for the purpose of an endowment to pay a master of drawing in the Taylor Galleries, has, with some modifications approved by Mr. Ruskin, been cordially accepted by the University of Oxford.

— The prize awards the past year at Colby University, Waterville, Me., are as follows: Senior Exhibition, Delwin A. Hamlin; Junior Prize Declamation, First Prize, Horace W. Tilden; Second Prize, E Burrett Haskell; Sophomore Prize Declamation, First Prize, Nathaniel Butler, jr.; Second Prize, Jefferson Taylor. Freshman Prizes, First Prize, Miss Mary C. Low; Second Prize, Leslie C. Cornish.

— An earnest and thorough religious work is reported as having recently taken place in the Ohio Wesleyan Female, College, at Delaware, O. All but two of the senior class, numbering twenty-three have been converted and out of one hundred boarders in the institution over ninety have professed to find the Saviour. About fifty of the students of the Ohio Wesleyan University at the same place have also recently professed conversion.

— The observatory of Harvard College, has recently made arrangements for supplying an accurate standard of time to Boston, by means of the telegraph. It is contemplated, if means can be provided for the undertaking, to set up timekeepers in the principal public offices, hotels and railroad stations in the city, similar to the one now placed in the Western Union telegraph office, so as to secure uniformity and accuracy in the indications of time throughout Boston.

— The recent semi-annual examinations at Michigan University resulted somewhat disastrously for some of the students. Quite a number of each of the two lower classes were conditioned and several rejected. The following appointments for the junior exhibition, at this University have been made:—C. L. Doolittle, Ontario, Ind.; S. C. Eastman, Elgin, Ill.; E. J. Ferdon, Ann Arbor; H. W Golston, Ann Arbor; Jas. R. Gaffe, Kenosha, Wis.; R. S. Grass, Brunswick, Maine; F. C. Hagman, Ann Arbor; Albert Jacobs, Detroit; S. R. Peabody, Detroit; J. G. Pattengill, Ann Arbor; G. F. Robison, Ann Arbor; H. Russel, Detroit; V. M. Spalding, Ann Arbor; W. B. Williams, Hillsvile, Penn.; C. S. Wilson, Chicago, Ill.; C. M. Van Cleve, Ypsilanti.

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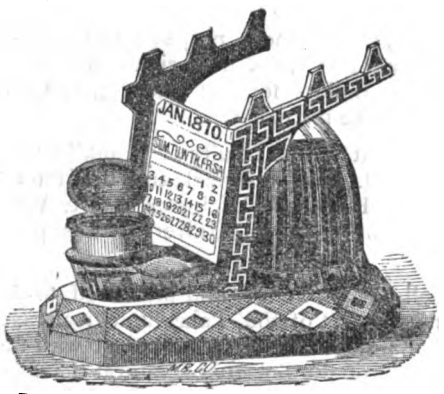

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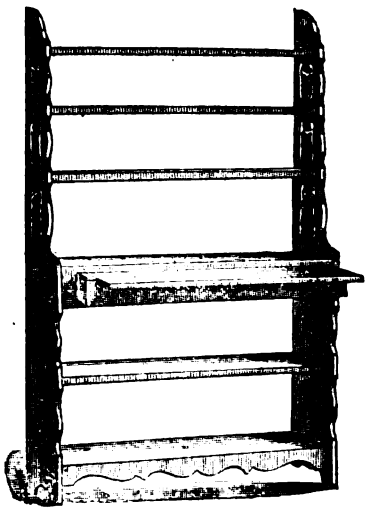

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, MARCH 2, 1872. NUMBER 9.

COMETARY PHENOMENA.

BY PROF. W. A. NORTON.

In THE COLLEGE COURANT of the 17th inst., under the head of the "Phenomena of Comets," quotations were made from a recent communication to the London *Chemical News*, by Prof. Osborne Reynolds, containing allusions to certain investigations of mine on Donati's Comet. The author represents me as having reached the result that the repulsive force exerted by the sun on cometic matter, urging it away from the head of the comet to form the luminous train, is "equal to from 0·75 to 0·55 the attraction of the sun for ordinary matter." This is an erroneous statement, and gives no adequate idea of the results actually obtained in the discussion referred to. My investigations on Donati's Comet were undertaken with the view of subjecting the hypothesis of a solar repulsion of cometic matter, first propounded by Olbers, and ably maintained by Bessel, to a rigorous numerical test, by comparing quantitative theoretical determinations with the results of astronomical observation and measurement. For this purpose a long series of elaborate calculations were entered into, and detailed comparisons made with the actual comet as astronomically observed and measured. The following points were established by the discussion:

1. The preceding half of the tail of the comet was composed of matter repelled from the sun with a force varying in intensity with the different particles between the limits 0 and 1·5 (the force of gravitation being taken as the unit); the 0 line of particles differing but little from the middle line of the length of the tail, and the 1·5 line being its convex outline. 2. The following half of the train was made up of matter subject to a diminished solar attraction varying between the limits 0 and 0·6; the latter obtaining along the concave outline.

These were the results upon the assumption that the particles left the head of the comet without lateral velocity. It was found that small initial lateral velocities might be assumed, and a train of nearly the same position, form, and dimensions, theoretically calculated, provided the above limits for the two sides of the tail were reduced from 1·5 and 0·6 to 1·213 and 0·455.

3. It followed from the above results that the solar repulsion operated upon certain different portions of the matter expelled, with unequal intensities, in some instances exceeding the force of gravitation, and in others being of a less intensity; and that while the effective force in operation varied between the limits just given, the actual repulsion varied between the limits 0·4 and 2·5; or if initial lateral velocities obtained, between 0·55 and 2·21.

4. All the unequally repelled particles that set out at the same instant, were found, at the end of any assumed interval of time, situated upon a right line traversing the tail obliquely, and which, if prolonged backwards would pass nearly through the head of the comet. It followed from this that the matter expelled on several successive days would be found, at the end of that number of days, disposed in divergent bands lying in directions radiating out from the head of the comet, or nearly so. These bands should, however, form one continuous luminous mass, if the previous emission of the cometic matter had been the same from day to day, or had varied steadily and by slow degrees. This was in fact the ordinary appearance presented by the tail of the comet, but on certain evenings it was seen by Prof. Bond and other observers, to have at a distance from the nucleus a "columnar structure," or to be arranged in an "alternation of bright streaks with intermediate darkness." These streaks, which were about ½° in breadth, conformed in their direction to the bands of particles previously emitted at successive intervals of a day, or thereabouts. We may infer therefore that the evolution from the head of the comet, of the matter that was urged away by the solar repulsion to form the train, was for a time periodically intermittent.

Prof. Reynolds intimates that I did not suggest any explanation of the straight secondary tails, or streamers. This is a mistake. In a brief abstract of the principal memoir, published at an earlier date, it was stated to be one result of the discussion that these "were but lines of receding particles subject to much greater forces of repulsion than the other particles ejected from the nucleus." Two nearly straight narrow streamers were seen, on certain evenings, extending out from the convex side of the tail. They had the directions of lines of simultaneously ejected particles, and probably consisted of some more subtile nebulous matter, for which the varying repulsive action of the sun ran up to a very much higher limit than 1·5.

The sun is undoubtedly the great agent in the production of cometary phenomena; and he must act in two ways, for portions of the cometic matter are first brought by some solar agency into the condition to be repelled, which must then be repelled to great distances by the same or some other solar agency. Since the sun's force of repulsion varies in the inverse ratio of the square of the distance, and all the known forces received from the sun, are propagated by ethereal waves, we infer that this repulsion is in all probability some form of wave-force emanating from the sun. If so, unless we have recourse to hypothetical agencies, we must conclude that the force in question is either a heat-repulsion, or an electric repulsion. Our author's hypothesis that it is of electric origin is not a new one. It is open to the serious objection that electricity cannot experimentally be made to traverse a vacuum. It is true that this experimental result may be due to electrical conditions which do not exist at the surface of the sun's photosphere; and it is also true that the hypothesis that the electric ether pervades all space, furnishes a direct solution of the mysterious electric and magnetic sympathy existing between the sun and the earth, and thus has a certain air of probability. The necessity of this hypothesis cannot, however, be admitted, since the sympathetic communication between these cosmical bodies may subsist, through the intervention of the luminiferous ether. If this electrical hypothesis should be conceded, the conditions through which heat may be conceived to evolve the cometary phenomena, would also subsist with regard to electricity, and it would be difficult to decide between these two agencies. The electric theory of the phenomena of comets, and of certain apparently cognate terrestrial and solar phenomena, I have discussed in different communications to the *American Journal of Science*; without however, finally adopting it. While deeming it probable that electricity may play a certain part in the diverse processes of transformation through which the head of a comet passes, under the varying influence of the sun, I have taken the ground, in my later papers, that the solar heat is the principal agent in the production of cometary phenomena. The sun's heat may determine that condition of the cometic matter in which it becomes subject to a repulsive action from the sun, either by dissociating the molecules or atoms, and so diminishing their power of absorbing heat, or by producing this effect directly without dissociation. For it is to be observed, that it is only that portion of the solar heat which is not absorbed by the molecules, or atoms, that can be effective in any degree, as an impulsive force. The inequality of the sun's repulsion for different portions of matter expelled, may be ascribed to inequalities in the size of the atoms of different vapors exposed to the wave force—the smaller atoms taking the higher velocities—or to unequal absorptive powers for heat of different atoms, or molecules.

The theory of an universal force of repulsion (due to insensible and sensible heat), operating at all distances beyond the recognized limit of the attraction of cohesion of the molecules of ordinary bodies of matter, I have urged in different papers published in the *Journal of Science*—maintaining that it is the determining cause of the conditions and phenomena of the contact of bodies, whether by statical pressure or by impact, (in which in general no evidence is perceived of a sphere of attractive action being passed through before the repulsion comes into operation); that it constitutes the elastic pressure of gases; that as a force of cosmical repulsion taking effect upon highly attenuated vapors, with small atomic weights, it is the great agent in the wonderful processes of change through which cometary bodies are seen to pass, and at the sun's surface in urging upward, with a high velocity and to great heights, the incandescent masses of hydrogen that are seen, as "red protuberances" on the edge of the solar disk in total eclipses, and in expelling to much greater distances the still more subtile vapor recognized by spectroscopists as forming the substance of the solar corona.

Sheffield Scientific School, New Haven, Conn., Feb. 27, 1872.

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ANNUAL VISIT OF THE STATE BOARD OF VISITORS.

The annual visit of the Connecticut State Board of Visitors to the Sheffield Scientific School, which took place on Washington's Birthday, was an event of unusual interest. The State Board of Visitors is composed of the Governor, Lieut.-Governor, three Senior Senators, and Secretary of the State Board of Education, and the object of their yearly visit is to become acquainted with the condition of the School and the work in which it is engaged. In addition to these quite a number of the friends and benefactors of the School were present by invitation. Among those who took this occasion to inspect the actual workings of the institution were: Governor Jewell, ex-Governor English, Lieutenant-Governor Tyler, ex-Lieutenant-Governor Hyde, ex-Lieutenant-Governor Winchester, President Porter, T. S. Gold, Esq., Henry Farnam, Esq., Joshua Coit, Esq., F. J. Kingsbury, Esq., Dr. J. J. Howe, J. B. Sargent, Esq., Wells Southworth, Esq., Edward W. Seymour, Esq., H. M. Cleveland, Esq., the Hon. D. P. Nichols, John D. Candee, Esq., Secretary B. G. Northrop and Charles D. Warner, Esq. In the morning the School was visited by the Rev. Henry Ward Beecher, P. R. Pyne, Esq., of New York, and others.

The company assembled about half past two in the Governor's room at the State House, where Professor Gilman, one of the delegates to the National Agricultural Convention, recently held in Washington, gave an interesting account of the proceedings of that Convention, and its probable effect on Scientific Education. After this the company proceed to make a regular inspection of the various department of the Sheffield Scientific School. The first visit was to the Art Building, to the rooms deyoted to free-hand drawing, and in charge of Professor Niemeyer. Here the system of instruction was described and the work of the pupils examined. The company next proceeded to the Collier Cabinet of Mechanics, likewise in the Art Building and in charge of Professor Trowbridge. Here the large and valuable collection of models, plans, and drawings, some five thousand of which were from the Novelty Iron Works,

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which belong to the Department of Dynamical Engineering, were inspected and their use explained. The Natural History Rooms in the old Trumbull Gallery were then visited. These rooms are in charge of Professors Marsh and Verrill, that of the former being devoted to the study of Palæontology, and that of the latter to Zoology. Professor Marsh exhibited and described some of the valuable specimens secured on his expedition to the Rocky Mountains last summer, and Professor Verrill showed some of the skulls, skeletons, stuffed birds, etc., of which the room contained many. The company then proceeded to the site of the new Hall, which Mr. Sheffield has just begun to erect for the use of the Scientific School, directly north of the present Sheffield Hall.

The different parts of the Sheffield Hall and the work there carried on were next examined. After looking through the laboratory, the company in turn visited the Metalurgical Cabinet, where Professor Brush described the collection and explained how it was arranged to exhibit the different stages through which each metal passes from the ore to the finished product; Professor Gilman's Room where some of the new maps with which the school is supplied, were shown and explained; the Library, where Professor Brewer showed some of the photographs of Mount Shasta and surroundings, taken by the Clarence King expedition, and Professor Trowbridge described the new building and showed the plans of its different parts. Here some interesting statements were made by the various professors in reference to the actual condition of the school at the present time and the progress made during the past twelve months. By the remarks of these gentlemen several points were brought clearly before the minds of all present.

1. *The Special Aim of the School.*—This aim is the advancement of science in the highest sense of the word by so training up a body of men through systematic courses of instruction in mathmatics, physics, chemistry, natural history, and all the various departments allied to or dependent upon these, that they will be amply fitted to carry on to the best advantage the pursuits of theoretical and applied science. In this point of view the post-graduate courses are the natural supplement of the undergraduate; and the work which the school has performed is best seen by the character and work of the men it has sent out. Though a comparatively young institution, many of its graduates hold a high rank among the most distinguished of our scientific men; a large number of them are professors in colleges and scientific schools, or editors of scientific periodicals; some, geologists, mining engineers, and explorers; a very large number are well known as successful engineers; others are at the head of great manufactories or other industrial establishments; and others still have devoted themselves solely to the advancement of science. At the present time the character of the school has become so well established, and the work done by its graduates has been so eminently satisfactory, that the demand made upon it to furnish instructors in other institutions for the various departments of science is already far greater than it has been able to supply, and gives constant signs of increasing. It came out in the course of the discussion on this point that graduates of the Scientific School are connected as professors with colleges in Maine, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Iowa, Minnesota, Kentucky and Tennessee; that several are engaged in the United States coast survey or in other work under the direction of the national government; and nothing appeared to give more gratification and encouragement to those connected with the management of the school than the fact of the rapidity with which the men sent out succeed in gaining responsible positions, and the success they almost invariably meet with in maintaining themselves in them when gained.

2. *The Relation of the School to Literary and Linguistic Studies.*—While the main object of the school was the advancement of science, it was made clearly apparent that the education here given was not designed to be one-sided, but that the literary and linguistic side was not only not neglected, but was made a conspicuous part of the system of instruction. Full courses in the German and French languages are taken by all in the under-graduate department of the school, no one being exempt from these studies; the study of the English language is made prominent, and whole works of its leading authors are studied carefully; and critically! furthermore, those who desire it may receive instruction in the general principles of linguistic science from one of its greatest living authorities, Prof. William D. Whitney.

3. *The Attention Paid to Free-Hand Drawing.*—Free-hand drawing is now to be taught to every student in the school under the direct instruction of Professor Niemeyer, who has lately been secured as professor in the Yale school of Fne Arts, before their attention is directed to technical and mathematical drawing. By an arrangement which has been perfected with the school of fine arts, the two departments will work in unison, and the students of the scientific school will have not only the advantage of the personal instruction of the professor of drawing, but also access to the collection of casts, diagrams and models which have already been secured for the first-mentiond school, and which are constantly increasing in number and value.

4. *Advantages for Learning Plane Table Surveying.*—An officer of the United States coast survey having been detailed to make a survey of the region of New Haven harbor, the managers of the school have taken measures to secure from him for their classes in engineering instruction in plane-table surveying—which method of ascertaining and delineating the topography of a region is now successfully employed in the work of the coast survey.

5. *The Increase in Post-Graduate Study.*—Among the most marked features in the present condition of Yale college is the large number of students pursuing post-graduate courses. Particular attention was called to this point. There are nearly fifty of such students in the Philosophical department of Yale college, excluding, of course, students in law, medicine and theology; and of these fifty about three-fifths belong to the post-graduate departments of the Scientific school. This indeed was the work which the school, was originally established to accomplish solely; and though it has been found necessary to furnish undergraduate instruction, the original idea has never been lost sight of, and it is now constantly assuming more and more importance.

6. *The Recent Contributions to the School.*—A list of the contributions which have been made since the period, two years ago, when the schools made its appeal for assistance, was then presented, and there was a very grateful acknowledgement of both the pecuniary and moral aid which the institution had received in numerous quarters. In this list besides the additional gifts furnished by Mr. Sheffield, there also appeared a donation of five thousand pounds made by Mrs. Robert Higgin, of Liverpool, England; a gift of $10,000 from a gentleman in New York; gifts of $5,000 each from several citizens of New Haven; a yearly subscription of $1,000 for three years by Ex-Governor English; and various sums of $1,000 and $500 given by different individuals. There are also, it appeared, several who are making annual subscriptions for the support of the school. The sums thus received have been mainly devoted to increasing the number of instructors, three new professors—Messrs. Trowbridge, Lounsbury and Allen—having been added within the period of time referred to, and the services of instructors in other departments having been secured for special objects. The institution still finds itself much cramped in its efforts by the limited pecuniary resources at its command, and is prevented in consequence from introducing many desirable improvements in its methods of training; the salaries of its professors are still at an exceedingly low point, and the allowance for the current expenses of the school has been uncomfortably small. An additional endowment of two or three hundred thousand dollars would enable those in charge to make the institution in every respect more valuable; to put upon a proper basis departments insufficiently developed on account of the lack of funds; and to secure instructors for posts which are badly needed, but which there are at present no means of filling. In particular a plea was made for the speedy raising of the sum of $30,000 which is needed to secure two subscriptions already made, of $10,000 each on condition that an entire sum of $50,000 be raised.

The statements were listened to with great interest, and after some informal conversation the company adjourned to the New Haven House for supper. Speeches were made at the table by Governor Jewell, Ex-Governor English, President Porter, Messrs. J. B. Sargent, E. W. Seymour, John J. Howe, John D. Candee, T. S. Gold, C. L. Goodale and others. In the evening as we mentioned last week, the company attended Professor Brewer's lecture in the Mechanics Course on "The United States Weather Signal Service."

THE AGRICULTURAL CONVENTION.

A call was issued last December by the Commissioner of Agriculture, Mr. Frederick Watts, for an Agricultural Convention to be held in Washington, February 15th. This call was sent to the various Agricultural Associations in the country and also to the Agricultural Colleges and Institutions making Agriculture a subject of study, and announced that the Convention would meet for the purpose of discussing questions of mutual interest to both the Associations and Institutions, and to take such action for the promotion of the interests of agriculture as might be deemed expedient. In other words the Convention was called for the purpose of bringing together both scientific men and farmers that by their consultation mutual benefit might be obtained. Such was the object of the Convention but it hardly seems to have well fulfilled the purpose for which it was called together. An unfortunate disposition to talk seems to have prevailed and a strenuousness in maintaining individual opinions was evident in nearly all the discussions. The consequence was that the harmony of the deliberations was disturbed and not as much was done in the three days which the Convention occupied as could have been desired.

The meetings of the Convention were held in the library of the agricultural building and delegates were present from nearly every state in the Union. The Convention was called to order by the Commissioner of Agriculture who said that one of the principal questions for that body to decide was the best method for farmers and agricultural institutions and associations to coöperate with the Department, in order that the farmer might secure the same opportunities for consultation with the Government as are afforded the merchant and business man. The permanent organization of the Convention was then perfected and Dr. Loring of Massachusetts chosen president. On taking the chair Dr. Loring made a speech of some length expressing his pleasure at the size of the Convention, rejoicing that both scientific men and farmers were present, and making a warm appeal for the Agricultural Colleges and the Agricultural Department.

The Commissioner of Agriculture then read a long preamble and several resolutions which had been prepared. The preamble set forth that in the passage of the act of July 2, 1862, Congress had evinced a determination to establish, through the State Legislatures, institutions for the education of the youth of the country in a manner to fit them for active, practical life; and in view of this expression on the part of Congress it was the duty of all interested in the prosecution of this object to examine the subject and point out the detailed processes by which the design and bounty of Congress may be made most available. The first resolution declared that it would greatly conduce to the operations

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of agriculture if its operators had the light of scientific knowledge to guide the work. The second resolution—that in the act of July 2, 1862, was to be recognized the foundation upon which to organize and build colleges and schools where the scientific principles and knowledge of agriculture may be taught. The third resolution—that in the establishment of agricultural colleges they should be distinctively agricultural in their government and teachings, although no branch of learning should be excluded, the main design being to extend the knowledge of all those branches of natural and exact science and practical skill which peculiarly belong to a finished agricultural education; that manual labor should be practiced and taught; that females as well as males should be admitted. The fourth resolution—that horticultural and agricultural societies and agricultural colleges and schools having the same object—the proper cultivation of the soil—should unite on a plan of education by which the light of knowledge should be made to shine upon the work. The fifth resolution—that the Department of Agriculture must necessarily depend upon its intimate connection with other agricultural institutions for its efficiency.

After these resolutions had been laid upon the table, the expediency of securing government land grants was considered. Mr. Farwell of Minnesota read the act of 1862, which appropriated 10,000,000 acres to the States generally for the purpose of establishing colleges for the promotion of agriculture, and maintained that the allotments of land and land scrip were unequal. He was followed by Dr. J. M. Gregory, Regent of Illinois Industrial University, who offered a number of resolutions to the effect that the Convention was in favor of the bill now before the Senate, which proposes to devote the entire net proceeds of the public lands henceforth to the promotion of public education; but the devotion of the entire fund to the single purpose of employing common school teachers was deemed unwise, and another series of resolutions was presented setting forth what would be the best distribution of the fund. The plan proposed was that one-third of the fund, or the income thereof, should be apportioned to the States on the basis of the number of children between the ages of six and fifteen, to be used in the employment of teachers, or in the purchase of school libraries, on such plan as each State may determine; one-third to be apportioned on the same basis, to be used in support of normal schools, provided that at least one-half of such fund be divided among the several schools in the proportion of the number of normal pupils who shall pass their examination successfully; and one-third to be apportioned as follows: One-half on the basis of the population of the States, and one-half on the basis of area, to be used in the support of the agricultural, polytechnic, and other State colleges and universities. The resolution, were referred to a Committee of Five, and this completed the first day's work.

On Friday, the second day of the Convention, after much time had been spent in talk, the report of the Committee on Equalization of Land Grants, was considered. This report declared that under the grant of July 2, 1862, colleges were established for the purpose of advancing the interests of agriculture by teaching those branches of learning relating to it, not excluding other scientific and classical studies, and including military tactics and the mechanic arts; but the grant had been insufficient, for the reason that the allotments of land and land scrip had been unequally divided among the several States. In view of this, the Committee recommended that Congress be asked to grant not less than 1,000,000 acres to each State for the further endowment of the institutions established under the act, and to those which may hereafter be established. The report also stated that the apportionment of the lands being on a basis of representation, had been the means of giving more land to many of the smaller States than to some of the larger Western States; and also that subsequent legislation had required many of the States to accept land scrip instead of lands.

The report led to no small discussion. There seemed to be a general agreement upon one point,—that additional land grants should be made for educational purposes, but there was considerable disagreement as to how they should be made. The friends of the Agricultural Colleges were anxious to obtain further benefits for these institutions, while on the other hand the representatives of the Agricultural Associations thought the public domain should be appropriated for the education of the masses. During the discussion, amendments and substitutes were freely offered, and in consequence of the unfamiliarity of some of the delegates with parlimentary rules, the main point of the report was frequently lost sight of. Finally, as there seemed to be no prospect of agreement in the plan proposed for the benefit of the Agricultural Colleges, Mr. Gregory of Illinois offered a resolution asking Congress to make an additional grant of land or its proceeds to carry out the provisions of the act of 1862. This resolution met with considerable opposition from the friends of the Agricultural Associations but was finally adopted. A voluminous report was then read by Mr. Barnett of Georgia, upon the relations of colleges and societies, and what kind of coöperation should exist between these bodies and the department of Agriculture. It was recommended that the various State societies and colleges work together in collecting information relative to agriculture, and that they have some specific organ for communicating with the department, which should tabulate the information thus received and distributed throughout the country, and also that an annual Convention, like the present, should be held. The report was adopted and referred to the department of Agriculture. A proposition was also made to ask Congress to create the office of Secretary of Agriculture, but this was finally changed to a request for increased appropriations for the department.

The last day of the convention was more harmonious and much more was accomplished. Gov. Patten of Alabama made some interesting statements upon the condition of the South for the last few years, and presented a resolution to the effect that the Agricultural Department should be empowered to publish a system of meteorological and crop reports, and that a conference of the representative scientists of this and foreign countries should be convened for the purpose of perfecting a plan by which this could be successfully carried out. This resolution was referred to a committee, together with a resolution offered by Senator Morrill of Vermont, which declared that it was the paramount duty of the Convention to ask Congress for additional grants of land to sustain the Agricultural Colleges; and also, that the Secretary of War should be requested to detail one officer of the army to each college for the purpose of giving instruction in mathematics and military science. The Convention then discussed at length a resolution asking for a dissemination of knowledge in relation to obnoxious insects. The plan proposed was to ask Congress to make an appropriation for the publication of Prof. Glover's work upon this subject, and this plan was agreed to by the Convention. A report from the Committee on Experimental Stations setting forth the necessity of these stations or farms to the promotion of agriculture, and recommending that Prof. W. S. Johnson be requested to make an extended report upon the subject was also adopted.

The subject of military education in colleges was discussed at some length, the opinion being that unless Congress makes better provisions for this purpose the law requiring it might better be abolished. The plan proposed by the committee was, that Congress should appropriate $15,000 annually to each college for the purpose of securing competent instructors, and also that the colleges should be furnished by the Government with the necessary arms and equipments. The Convention then busied itself with resolutions recommending an extension of the powers and duties of the Commissioner of Agriculture and proposing an increase of his salary. Mr. Clark of Amherst, Mass., gave an account of the workings of the college at that place, showing that the military system had been a complete success. A Committee was appointed to take into consideration the proposed reorganization of the United States Agricultural Association, chartered by Congress in 1862, and it was agreed that the next meeting of this Convention should be called for February, 1873. After the adjournment of the Convention it was addressed by Dr. Loring.

COLLEGE AND HISTORICAL.

THE NEW YORK UNIVERSITY—THE HISTORICAL SOCIETY.

The most important event of the past week, in which your readers will feel an especial interest, was the meeting of the Alumni of Harvard University resident in the city, at Delmonico's. Of that event you are to have an account from the pen of one who, by reason of his former academical relations to that institution, is every way better qualified to give it than myself, a mere "looker on in Venice." But there were two incidents of minor moment, which are of sufficient interest to warrant mention. One of these was the commencement exercises of the Medical Department of the University of the City of New York, and the other was the lecture of Professor Newcomb before the Historical Society.

The annual commencement of the Medical Department of the University of the City of New York, was held on last Tuesday evening, at Association Hall. As is usual on like occasions, there was present a large audience, of ladies and gentlemen, some from the residents of the city, and some from the cities and country roundabout. The exercises were of a very interesting character, and were witnessed with the closest attention, and apparently the deepest interest. They were preceded by some fine orchestral music, which seemed to put every body in a happy mood, conducive to the enjoyment of the exercises.

The graduates, nearly eighty in number, received their diplomas at the hand of Professor H. Draper, going on the platform in the order of their classes. Meantime, upon the platform, were seated Professor Loomis, Professor Thompson, Professor Budd, Professor J. Draper, and other members of the faculty, besides several other distinguished gentlemen. In front of the venerable professors was a table, loaded with the credentials of the graduates. The distribution of the diplomas was quite an imposing ceremony, as was also the presentation of the medals and prizes. Of the former there were two, known as the Mott medals, one of gold and the other of silver, which were respectively presented to J. P. Granger and H. C. Monroe. The prizes were from the Professors, and were awarded to G. H. Hammond, S. P. Ensign, J. A. Steven and H. S. Vandenhoff.

The address was delivered by Professor Darling, who, on being introduced, was received by the graduates and the audience with a storm of applause. After a few very pretty expressions of congratulation, he advised the young men before him, in the most earnest manner, not to consider their studies completed with the reception of their diplomas. He reminded them that they had before them a life of labor and privation—a work that was never completed. The experience of the past and the discoveries of science are at the command of the student, and a portion of his time should be set apart for self culture. The professional secret should be as sacred as the secrets of the confessional, and the title of physician should have added to it the noble title of friend. In no profession should rivalry be so earnestly deprecated as in the medical, and it should be left to the practitioner who had never made a mistake to cast the first stone. As we live in an age of activity, the scholar can no longer repose upon his academical laurels, but should make it an object of his life to add something to medical knowledge. He closed with a eulogy upon the university.

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Dr. Robert J. Brevord was the valedictorian of the class. He began his address with the usual references to past friendships and future partings. Altogether it was a very creditable production, and well delivered. The college was eulogized as a bulwark against quackery, and at the close the faculty were appropriately and affectionately addressed. This address closed the commencement exercises, and the graduates went forth to their career of pills, pukes, and plasters, evidently happy that their professional probation was at an end.

The other event mentioned, the reading of his paper upon "Hispaniola" by Professor Newcomb, before the Historical Society, transpired on the same evening. The Professor, after an elaborate introduction, reviewed the discovery and history of Hispaniola, illustrating by incidents the heartless cruelty of the Spanish conquerors, and the intense suffering of the natives. Of the three million of happy Indians once inhabiting that island, scarcely a trace now remains. African slavery was introduced to relieve the native race, at the instance of Dias Garcias; yet, while the Negro slaves increased rapidly in numbers, the Indians continued to disappear, until at length they were entirely extinct as a pure race.

Referring to the principal geographical features of the island, Professor Newcomb said that the magnificent Bay of Samana is capable of containing the whole navy of Great Britain, and could be defended by one monitor of the United States. He described the mountain ranges, rivers and other physical features of the country, and the lake region as composed of four lakes, surrounded by marshes of great extent. The rank tropical vegetation in this locality generates malaria, which the breezes waft to the westward. But the tradewinds from the north and east sweep through the val eys of the country, cooling the atmosphere and exercising a salubrious influence. He said there was evidence of the former union of the Atlantic and Pacific oceans. The summits of the mountains, before the great subsidence of the waters, had been merely islands.

Of the products and soil he was most liberal in his praise. Gold, copper and iron were found in various parts of the island. More than seventy distinct varieties of fruits are grown. The soil is so various that almost every kind can be found, from the most barren to the richest and most fertile. Irrigation is practiced in the sugar cane lands. The estimate of two millions of tons of sugar for the annual production is too low; it should be placed at three millions. The coffee region is also very extensive, comprising not less than two millions of acres, and the annual export is about twelve millions of dollars. American commerce with St. Domingo is very limited.

He even spoke in praise of the health of the island. Port au Prince he confessed was one of the most deadly places in tropical America; but from this fact, he contended had grown up the belief in the unhealthy climate. But having visited twenty-four of the islands of the West Indies, he had no hesitation in saying that of all these St. Domingo was the most healthful. This, of course, did not include the towns on the west coast or in Hayti.

He spoke at considerable length of the city of San Domingo, the oldest of European origin in America. He gave a vivid description of the ruins of this ancient Spanish settlement, and especially of the Monastery of San Francisco, which are among the most magnificent upon this continent.

The paper was a contribution in favor of the annexation of St. Domingo to the United States. At the close he said the people of the island, worn out by dissensions, desired most ardently a settled government, and believed that annexation was the only means of securing them peace and prosperity.

Professor Newcomb was listened to with marked attention, and at the conclusion was warmly applauded.

New York, Feb. 24, 1872. T.

— Baron Rothschild owns 140 houses in Paris, valued at $5,750,000, in some of which it is said, not so much as a pane of glass was broken during the seige.

THE COAST SURVEY.

From the report of Prof. Benjamin Pierce, Superintendant of the United States Coast Survey, to the Secretary of Treasury, we take a few facts which may prove of interest.

It has been found from observations made by Assistant L. F. Pourtales, during the passage of the Hassler across the Gulf Stream, that the warm water which is characteristic of the Gulf Stream was, early in this month, more than half a degree further south than it was in the year 1860, and that the band of warm water was somewhat broader. A colder band was crossed in going further southward, but there were no other alterations of cold and warm water. The observations were made in the latitude of Cape Henry.

The primary object of the Coast Survey is, of course, to obtain accurate maps and charts of the coast, but the whole work of the parties engaged is not confined to triangulation. Many incidential subjects of great interest are investigated and valuable results obtained. In reference to these the report contains the following statements:—"It is à distinguishing feature of the service under my charge, that while it has a specific and direct object in its bearing on the interests of commerce and navigation, the performance involves operations and investigations which almost rival in value the primary function of the survey. The methods and processes used have been at all times the best afforded by science and art, and the form of publication has gained in accuracy and beauty, so that our charts from the first have been unsurpassed by any which have been elsewhere produced. The methods of astronomical observation employed in the survey are now universally adopted, and have greatly increased the precision with which elements of the relative position of places upon the earth are determined. Our deep-sea explorations have incidentially opened new worlds of discovery to the naturalist and the physicist. The laws of the tides and of the distribution of magnetism have been traced with increased distinctness, and have been made more intelligible by the observations made in the progress of the survey. And in the general mention of incidental advantages, it may be added that the necessary connection between the geodetic operations upon the two sides of the continent gives opportunity, the suggestion of which cannot be justly omitted, to take steps for the geodetic survey of the country as the essential foundation of all local surveys, topographical or geological. It opens, moreover, the opportunity of extending to the States of the interior, benefits similar to those which have already been afforded to States on the seaboard."

Some of these benefits are the correction of blunders in the existing surveys of some of the interior States. What has been done in this direction is detailed in the following extract:—"In accordance with the recommendation contained in the preliminary report of September 1870, a small appropriation was made by Congress, at its last session, for commencing the geodetic connection between the Atlantic and Pacific coasts, and for the determination of points in any of the interior States, which may require them as the basis for State surveys, or for the construction of State maps. The expenditure of part of that small sum has already revealed a considerable error in the hitherto accepted geographical position of so prominent a point as Columbus, Ohio. It is certain that any expenditure which may be made for this purpose will be soon repaid to the General Government by the more accurate information thus acquired in regard to distances or the length of post routes, upon which the contracts for the postal service are principally based. By the 1st of July, at which date the appropriations became available, applications had been made by the Governor of New-Hampshire, Ohio, Indiana, and Missouri for the determination of geographical positions within the limits of their respective States. Near the end of November the Governor of California made a similar request. Several parties were accordingly assigned, and have been engaged in this duty and in the geodetic connection during the past five months. Applications were also made by the Governors of Virginia and Maryland to locate the boundaries of their respective States.

At the State House in Columbus, Ohio, the longitude, deduced from observations made in October last by one of our most experienced assistants, prove that the previously accepted position is in error by as much as three miles. This discrepancy was not known when the Governor of Ohio applied for the benefit of the provision made by Congress. The points proposed for determination in the vicinity of the Misssissippi are from ten to eighteen miles apart. It is intended to connect all of them with the nearest section corner of the surveys made for the General Land Office. Hence the work done by the Government in the geodetic connection of the Atlantic with the Pacific coast, as proposed in the estimates, incidentally avails for the geograpical adjustment of large and populous areas at the West, and presents a motive for early action in regard to correct State maps, in the issue of which the Government has collateral" interest through the requirements of the postal service. The estimate for expenses the coming year amounts, to $726,000. Of this sum $25,000 are for general expenses, such as rent, fuel, materials for drawing, engraving and painting, and for transporation of instruments, maps, charts, for miscellaneous office expenses, and purchase of new instruments, books, maps, and charts; $80,000, are for use on the coasts of Maine, New Hampshire, Massachusetts, and Rhode Island; $15,000, for use on the coasts of Connecticut, New York, New Jersey, Pennsylvania and a part of Delaware; $38,000, for part of Maryland, Delaware, and Virginia; $38,000, for part of Virginia and North Carolina; $40,000, for South Carolina and Georgia; $40,000, for the coast, keys, and reefs of Florida; $30,000, for the Gulf Coast of Florida north of Tampa Bay and coast of West Florida; $50,000, for the coasts of Alabama, Mississippi, and part of Louisania; $35,000, for part of Louisana and Texas; $240,000, for the Pacific Coast; $30,000, for forming geodetic connection between the Atlantic and Pacific coasts; $10,000, for the pay and rations of engineers of steamers used in the Coast Survey; $10,000, for continuing the publication of the Survey; and $45,000 for repairs and maintenance of vessels.

GERMAN UNIVERSITIES.

The University of Munich has 1,259 students in attendance this first term, 1871-2, of whom 66 study Theology, 365 Jurisprudence, 325 Medicine, 391 Philosophy, 81 Pharmacy, 9 Finance, 6 Chemistry, and 6 Forest-culture. This is an increase of 99 over last year. The University of Tübingen has 800 students, and that of Würtzberg the same number.

The University of Kiel has only 135 students. In the year 1828 it had 370, but since that time has continually decreased. It is sadly in want of new buildings, apparatus and cabinets, and also needs a reinforcement to its *corps* of Professors, specially in the line of natural sciences.

The University of Berlin has 51 Ordinary Professors; including extraordinary and instructors in special branches, 179, Its matriculated students number, 2,605,—an increase over the last term of 490. Classified according to their studies, Theology claims 280, Medicine 503, Law 837, and Philology 983. Classified according to country, 2,370 are German, 216 from other part of Europe, and 90 from the rest of the world. Beside the regular matriculants, 1,576 other persons connected with various special institutions are also permitted to attend the lectures, thus swelling the total number of attendants to 4,181.

The University of Erlangen has 35 Ordinary Professors, and 18 Extraordinary Professors and special instructors; in all, 53. 334 students are in attendance, an increase over last term of 43. Of these, 163 study Theology, 45 Law, 83 Medicine, 29 Pharmacy, 14 Natural Sciences, 18 Philology, 1 Philosophy, and 1 Dentistry. There are four American students here.

Erlangen, January, 1871.

—*W. in National Baptist.*

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SCIENTIFIC.

— Mr. Keith Johnston, in his summary of the results achieved by the Austrian expedition for the examination of the sea between Spitsbergen and Novaia Zemlia, states that the open sea navigated in 1871 below the seventy-eighth parallel is more than five hundred miles in extent longitudinally, and of indefinite breadth.

— M. Leon Vaillant has published some interesting researches concerning the *Oncidium celticum*, a mollusk which appears to be literally and strictly amphibious. The most remarkable character of its organization is its possession of a double respiratory system, the one being pulmonary, for use in the air, the other bronchial and used during its submergence in the waves, when the pulmonary sacs are closed.

— Dr. Letheby thinks that spring water, moderately impregnated with carbonate of lime, should usually be preferred to lake water, which has a deficient supply of air and carbonic acid, and usually abounds in peaty and other organic matters. His opinion is partially controverted by many eminent physicians, but the injurious influence of fermentable organisms is generally recognized as a prolific source of malarious and typhoid fevers.—*Phil. Press.*

— The January number of the *Journal of the Franklin Institute* contains a very interesting account of the recent experiments at Sandy Hook upon the explosion of steam boilers, written by W. M. Henderson, Esq., of Philadelphia. It also gives the Report of the Government engineers upon these trials. The last of the eight conclusions of Engineers Isherwood, DeLuce, and Albert is the following: "That this experiment has conclusively disposed of several theories of steam boiler explosion, replacing vague conjecture and crude hypothesis with exact experimental facts, and by thus narrowing the field for the search of truth has made its discovery more probable."

Influence of Increased Height of Blast Furnaces.—In a paper by Mr. Plumb, upon the effect of increasing the height of blast furnaces in England, he remarks that in the midland districts there were four old furnaces, built half a century ago, each of them forty-five feet high. A new furnace had recently been built, sixty feet high, in the place of one of these, while there had been an addition of fifteen feet to the height of another—so that there are now two furnaces of sixty feet each, and two of forty five feet, working side by side. A comparison of the results of the two series shows that a considerably increased amount of iron has been the consequence of the elevation in height of the furnaces, and that in districts where tender cokes were used, a height of sixty feet might be safely obtained, but perhaps not exceeded.

Formation of Graphite. — Berthelot has communicated to the Academy of Sciences a memoir upon the various modifications of carbon; he says: "The intense heat produced by combustion in oxygen converts a small portion of gas-retort carbon into graphite. Berthelot suggests that it is in this manner that natural graphite has been formed, the amorphous carbon, being more oxidizable at a low temperature, having been gradually dissolved. This view derives some support from the presence of a trace of graphite in lamp black. Electricity also converts amorphous carbon into graphite, the carbon carried over to the negative pole being found to contain a considerable quantity of the latter, while the positive pole contained only a trace. The actual transference of the carbon is not however, necessary for the formation of graphite; carbon from sugar softened by the heat from a battery of 600 pairs being found to contain graphite in large proportion. Carbon separated from hydrocarbons by the agency of heat does not contain a trace of graphite, while that which is separated by heat from the sulphide or chloride of carbon or by chlorine from boron contains a considerable quantity."—*Comptes Rendus.*

The Points of the Compass.—An interesting paper was recently read, at the last meeting of the American Oriental Society, on the relation of the Chinese and Mongolian languages, and valuable inferences were drawn from the fact that the classification of the points of the compass was originally the same in Chinese, Tibetan and Mongolian. In these languages the south is always mentioned before the north, and in ancient Chinese and Mongolian, the west before the east. In Mongolian the word south means "in front," north means "behind," west means "to the right," and east means "to the left." In Chinese, the character which stands for north, is composed of two men turned back to back, and originally meant "to turn the back upon." In the Chinese compass the index is placed on the south point of the needle. In the ancient classics instances have been found where the word "right" was used for west. Among other nations the points of the compass are sometimes named upon the same principle, but another point than the south is usually assumed to be in front. Thus in Hebrew the words "before," "behind," "right" and "left" are used, but the last is in front. The Hawaiians front toward the west, and call north, the "right," and south the "left." The consideration of the south as "before" is exceedingly natural among nations living in the North Temperate Zones, since observers of the motions of the sun and principal planets and stars must face the south in order to view the important heavenly bodies and record their courses through the signs of the Zodiac.—*Phil. Ledger.*

Substitute for Lithographic Stone.—A substitute for lithographic stone has been introduced. For the purpose in question, the inventor takes a block or slab of slate, or other material, which is to be made perfectly smooth and true, and then coated with glue or other gelatinous matter. In some instances he adds a solution of silicate of soda and bichromate of potash, or uses this solution alone. The coated block is exposed to the sunlight, and then washed to remove the superfluous coating; and, after being dried, it is ready for drawing or writing upon. The ink or pigment is prepared with albumen or other gelatinous matter, dissolved in a saturated solution of bichromate of potash, either with or without chrome alum, and with a small quantity of ivory-black, to render the ink visible. The picture is drawn upon the prepared block with this ink, and exposed to sunlight, and afterwards the surface is covered with gum or glycerine. The block is then ready for the printer. Another method consists in using as a substitute metallic substances, as tin, brass or zinc, preparing them first by rubbing with a solution formed of one ounce of hydrochloric acid, one-fourth of an ounce of zinc, and one drachm of glacial acetic acid. After the plate has received the impression from the stone or wood in an ordinary lithographic press, or by means of a "transfer," the ink thereon is dried by heating the plate, which is afterwards plunged while still hot into cold water; this latter operation being supposed to confer permanency upon the impression. The ordinary ink is used in this process, which appears to consist, in reality, of "soldering" the design on the plate and burning it in.—*Ib.*

Ozokerit.—This is a vegetable wax from the Caucasus. Its manufacture into blocks for candle-making, is patented in England, and the process, as carried on at Battersea, by the Messrs. Field, is thus described by *Engineering*:—"Commencing at the river end of the premises, we found a large store of the ozokerit in two conditions, in the one as dug from the earth, and in the other as roughly melted down for convenience of storage in transit. In the latter condition it forms a dark-colored mass, and is packed in barrels, the native or unmelted ozokerit being sent over in canvass bags. From the stores the crude material is conveyed into melting tanks, holding from 2 to 3 tons each, and where it is melted down by means of a steam coil. From these tanks, which are situated in a gallery some 15 ft. above the ground level, the ozokerit is run off by gravitation to a series of stills placed outside the main building, and holding from 2 to 3 tons each, and in which it is distilled over, partly by steam, and partly by bottom heat. The dirt and bottoms from the crude ozokerit are run off from the melting tanks into another set of tanks beneath them, where they are remelted, the finer products being afterwards distilled over. The ozokerit comes over from the stills in the form of an oily distillate, which is run from the condensers into moulds and allowed to cool. This gives a deep yellowish wax-like substance of a spongy nature, the pores being filled with oil, which exudes under a slight pressure. These cakes are packed between oil-skins and canvas cloths and placed in hydraulic presses, of which there are three of large capacity. The pressed cake after removal is put into reheating tanks and again melted down, and pumped from these tanks by a steam pump into the acidifiers where it is treated with a sulphuric acid. These acidifiers are steam jacketted and are fitted with revolving agitators by which the ozokerit and acid are agitated together for a certain time, after which the mixture is allowed to settle. After settling, the purified ozokerit is drawn off from the lower part of the acidifiers—the acid remaining on the top—and run into vessels which are heated by bottom heat. This is the final heating, and from these vessels the fine stuff is drawn off into moulds, the result being a hard white wax, the melting point of which is 140°, that of paraffine wax being only 128°. These blocks are sent to Messrs. Field's works at Lambeth, and from them the now well-known ozokerit candles are made.

A Baby Hippopotamus.—Mr. Buckland, in a communication to *Land and Water* tells the following of a baby hippopotamus in the Zoological Gardens at London:—On Tuesday morning last, Mr. Bartlett was kind enough to inform me that a little hippopotamus had been born. On looking through the window of the house where the hippopotamus keeper resides, we could easily see the mother and baby; the scene was very much the same as that which I described when the last baby hippopotamus was born. The mother lay in the corner farthest away from the window, the young one lay close to her; the nose of the mother was close to the nose of the infant. Everything was painfully quiet, and the only sound was the chirping of the sparrows; the sparrows seemed to chirp louder in the hippopotamus house than anywhere else. The little animal, as Mr. Bartlett informed me, had not been seen to suck, although the mother had plenty of milk. An attempt had been made to get the little thing away directly it was born, but the mother was so savage that it was thought best by Dr. Sclater and Mr. Bartlett to leave matters alone. As far as I could make out, through an opera glass, the little one is as near as possible the same size as its brother, which was born February 21st, 1871, and died in three days. It seems surprisingly strange that the instinct of the mother was not sufficient to induce the young one to suck, and it seems almost contrary to the rule of nature that the young one did not know where to seek its food. Both mother and child had been in the water, and the young one could swim as well as its mother. Two milch goats had been provided in case they could have got the young one away from its mother. On Thursday morning I went again, and found, alas! that the little Umzimvooboo, as the Africans call the hippopotamus, had died at six o'clock. on Wednesday night, at the age of eighty-four hours. It was in the dissecting-room, and an artist was making a drawing of it for the *Illustrated London News*. Its total length from tip of nose to end of tail was 3 ft. 9 in.; the head 10 in. long, the tail 5½ in. The skin is very much corrugated and seems covered with a glass-like varnish. It is very pink about the mouth and lower jaws. The hoofs are dark chocolate, the legs and lower portion of the body the color of the section of a piece of india-rubber. Mr. Bartlett, with his usual energy and perseverance, managed to get the young one away from its mother, and it sucked down a pint and a half of goat's milk before it died. They managed to drive the mother into her tank of water by spirting water into her face with a powerful garden engine. The moment she entered her bath they slammed the gate, and then stole the young one. I understand that this rare specimen of a sucking Behemoth is to be sent to Oxford for dissection.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, MARCH 2, 1872.

PRESIDENT W. W. FOLWELL, of the University of Minnesota, who came east to attend the recent Agricultural Convention at Washington, spent a few days in New Haven last week. We received a very pleasant call from him and listened with great pleasure to his plan for University organization in the West. We hope ere long to present our readers with an account of his scheme—which seems to us to have many considerations in its favor—from the pen of President Folwell himself.

THE recent Agricultural Convention at Washington although perhaps it did not accomplish as much it might, has already begun to produce some results. Last week Friday, Senator Morrill, of Vermont who was present and joined in the deliberations of the convention, introduced a bill appropriating to each state, in which Agricultural Colleges have been founded in accordance with the law of 1862, 1,000,000 acres of public lands for their further endowment and support. No mineral lands however, are to be taken in this act. The bill was referred to the committee on Education and Labor,

THAT the Sheffield Scientific School of Yale College is engaged in an earnest, thorough, and successful work must, we think, have been plainly evident to the State Board of Visitors and those with them, some account of whose annual visit last week is printed in another column of this issue. Indeed the earnestness of both professors and students, the thoroughness with which the work attempted is done, and the success which has thus far attended the efforts of its friends to build up a first class scientific school, and the not less remarkable success of the graduates of the school in their chosen work, are striking characteristics of this institution. It will be observed, however, from the statements made in the article referred to that the present condition of the school is only an earnest of what its friends hope to make it in the future, and that lack of means only, deters from further development and further progress, and prevents the school from answering even more fully the demands made upon it.

THE recent resignation of the faculty of Franklin College at Franklin, Indiana, and the consequent closing of its doors seems to have been from want of funds to further carry on its work. It will be remembered that we announced some two months ago that the Board of Trustees had determined if the endowment fund was not raised to $75,000 by June next, it would be their duty to close up the institution. But it seems that the faculty have anticipated the trustees in this work. The college was started in 1843, and has suspended at least once before. It is affirmed that the Baptists of the State to whom appeals were made in behalf of the institution did not respond, and its death was the inevitable consequence. But we are informed that there was a yearly discrepancy between the receipts and expenditures amounting to over $3,000, and this would seem to be sufficient cause for any institution to close its doors, especially, if as in this case, there was no prospect of relief. The truth of the matter seems to be the college was not needed and so passed away. And without wishing to be severe, we cannot help expressing the opinion that if one half of the colleges in the country would either pack up their effects and consolidate with the other half, or convert themselves into good preparatory schools, it would greatly advance the cause of education in the United States.

IN our account last week of what has been done to secure an international copyright law, we affirmed that the Philadelphia publishers were opposed to such a law of any kind. This seems, however, to have been a mistake, for Mr. W. H. Appleton writes to the New York *Evening Post*, that at least three firms in Philadelphia, Messrs. Claxton, Remsen & Haffelfinger, J. B. Lippincott & Co., and Henry C. Lea, approve of a law substantially that agreed upon by the authors and publishers before the Committee of Congress, as detailed near the close of the article in our last issue. In connection with this subject it may be said that Senator Sherman has introduced a bill into the Senate, somewhat different in its provisions from the publisher's and author's bill. It provides that a foreign author of any book, etc., may deliver two complete copies of such book, etc., to the librarian of Congress within twelve months after its first publication abroad; and then, after complying with all other provisions of the copyright law in force at the time in this country, he shall be entitled to the benefits of international copyright for ten years; but it is stipulated that this act shall not apply to countries where a like amount of privileges and benefits are not secured to American authors. It is further provided that any one may publish a work copyrighted under this act, if he pay to the foreign author five per cent of the gross cost of publication, and that such author may recover at law his percentage from any one who publishes his book, whether he has had a previous contract with the publisher or not. And finally nothing in the act is to be construed to prevent the importation of foreign books. This bill, as it seems to us, while it has several things to recommend it, is faulty in the amount it allows to the foreign authors. The usual allowance in this country is ten per cent and that too upon the selling price and not upon the cost of publication. Under this bill the author would not receive more than one-fourth of the amount now received by authors in this country, which is manifestly a greater disproportion than is due to the fact of foreign authors not being citizens of our government and bearing none of its burdens.

A YALE ALUMNI ASSOCIATION FOR NEW HAVEN.

The New Haven *Palladium* of last Monday contained a call for the formation of a Yale Alumni Association in New Haven. On the following day in the same paper, a "graduate" seconded that call and urged some reasons for such action. The same day the *Register* took up the theme and united in urging it upon the attention of the Yale men here. The next morning the *Palladium* had a response from another correspondent, approving of the same worthy cause, and now we take up the refrain and add on mite to the discussion; for, as it seems to us, the formation of a Yale Alumni Association in New Haven at the present time is just the thing to be done. And the purpose of this article is to set forth a few of the reasons for such action.

In the first place then, the number of graduates here is sufficient to make such an organization a decided success. We have taken a little pains to find out how many of the graduates of the college are residents of New Haven, and have been somewhat surprised at the result. Excluding all the Professors and other officers of the college there are of residing and doing business in New Haven, and connected with the various professional schools here, not less than 160 who have received a diploma from Yale. Here surely is material enough—to say nothing about those in the vicinity of New Haven who would naturally be embraced in such an organisation—for an Alumni Association that can be equalled by few in the county. At the recent meeting of the Yale Alumni in Chicago, 34 were present; on the like occasion in Boston 64 attended; in Philadelphia about 60 met together, and at the meetings of the several Alumni Associations of other colleges, which have taken place in different parts of the country this year, the attendance has varied from about thirty to one hundred. Thus it will be seen that as far as numbers are concerned, an Alumni Association can be formed in New Haven, which will be the leading organization of the kind in the country.

Again there seems to be a peculiar appropriateness in having such an organization here. The Alumni of New Haven would not be dependent upon occasional visits from the faculty and the issues of the press for their information in reference to the college, as is the case with those who are in other cities. The college is here in their midst, and its workings can be observed by all. They can form their opinions from personal inspection, and those opinions when formed would have a weight and dignity which cannot attend those of others who are denied these advantages. It seems to us that the Alumni of other sections of the country have a right to look to those of New Haven for testimony in regard to the practical workings and condition of the college. And this testimony, either favorable or unfavorable, is doubtless given, when by chance of travel or otherwise, the New Haven Alumnus meets one from some other part of the country. But to make this testimony of any general value, it needs to be formulated, expressed in set terms, and given as the opinion of a body. Individual expressions of opinion are valuable, it is true, if the individual is of well known weight of character; but the masses must depend upon the resolutions of organizations which are made public through the press, for their general ideas in reference to the working of institutions. And the good which an organization of the Yale Alumni in New Haven could do in this direction would, it seems to us, be by no means inconsiderable. The New Haven Alumni are unjust both to the college and to their brother alumni throughout the country to continually enjoy, as they do, the benefits of the college in their midst, and receive from others testimonials of confidence and support for the institution in which from their position they are more interested than any others, and, at the same time withold their organized support and testimony of its value.

There is another point to which we should like to call attention, and that is, the beneficial effects which such an organization would have in keeping alive the interest of graduates in the college. After men pass through their course of study, the cares of business and of life have a tendency to make them forgetful and negligent of their *Alma Mater*. And yet these men have still a duty to do to that *Alma Mater*. The man who is content to selfishly get all he can from an institution of learning, and then abandon all interest in that institution is unworthy of the education he has received. To sustain, to encourage and help in every way possible, the educational institutions of the country is the duty of all, and especially of those who have enjoyed the benefits of higher education. But this being granted, what else shall break in upon the routine of our daily life and revive our interest in a cause in which all feel an interest, so well as an annual meeting together in an organization whose aim is to sustain that cause, and around a social board where every sentiment and every flash of wit tends to revive the memories of the past, and to stir up to present duty.

There are several other consideration which we should like to urge if space and time permitted. We have taken pains to inquire somewhat both among the faculty of the college and among resident graduates, and from all, we have expressions highly favorable to the project. Again, the influence on each individual of meeting familiarly with those—both faculty and resident grad-

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uates—whom they pass every day on the street and greet with a touch of the hat only, cannot but be of permanent advantage. And finally such an organization, as it seems to us, would, by the publicity of its exercises, and the identification of leading men with it, tend to produce a very desirable interest of the city in the college; and reciprocally of the college in the city.

To sum up then we maintain that there should be a Yale Alumni Association in New Haven, because the number of graduates here is sufficient to make it a success, because the alumni in different parts of the country have a right to look to those in New Haven for testimony in regard to the college; because it would tend to revive and keep alive in each alumnus an interest in his *Alma Mater*; because the effect on individuals would be valuable; and because it would tend to bring about a unity between the college and the city. In conclusion we would say, that we are informed that the subject has been privately agitated to quite an extent and that the time seems ripe for action. Who will take the intiative?

LITERARY.

Magazines and Reviews.—In the *Atlantic* for March, four of the serials are continued. "Septimius Felton; or, the Elixir of Life," by Hawthorne fills nearly ten pages; "The Diversions of the Echo Club," details the proceedings of night the third; James De Mille gives two chapters, which brings his story through the sixth, of "A Comedy of Terrors;" and Oliver Wendell Holmes in "The Poet at the Breakfast Table," pays his respects to the doctors who guess at your complaint and tell you their guesses, which make you uneasy, and to the critics, who do *not* write with the aim of correcting one's faults. We cannot forbear quoting a single sentence on this latter point, which seems to us a jewel both of truth and expression. He says in trying to comfort a young authoress who was almost discouraged by adverse criticism: "I know this very well, that some personal pique or favoritism is at the bottom of half the praise and dispraise which pretend to be so very ingenious and discriminating." Of the remaining articles in this number, Parton treats of "Jefferson as a Virginia Lawyer," George M. Towle has quite a lengthy article on "Our Consular Service," and Henry James writes of "Spiritualism Old and New." Bret Harte tells "How Santa Claus came into Simpson's Bar," and J. W. Palmer occupies over eleven pages with an account of a Maiden, Wife and Mother in Hindostan. The poetry of the number is by Longfellow, Whittier, Will Wallace Harvey, Nora Perry and Mrs. Celia Thaxter. In the political department there is a dig at the connection between a certain New York journal and the administration and a discussion of the effects of such an alliance upon journalism.

Scribner's opens with an article by George Alfred Townsend in which the "Chesapeake Peninsula is shown up both with words and pictures; and Bayard Taylor gives an illustrated description of "the Heart of Arabia." The "Back Log Study," by Charles Dudley Warner is hardly equal to the one of the month previous, yet notwithstanding is very fine. The "False Claim of Mormonism," by President Geo. W. Samson, and "That Grand Jury," by Thomas W. Knox will attract attention from those who are studying the problems of the day. In D. O. C. Townly's sketches of "Living American Artists," William Page and Albert Bierstadt are delineated both with pen and pencil. "Wilfred Cumbermede," by George MacDonald is concluded, and "At His Gates," by Mrs. Oliphant, is carried through the ninth chapter. There are also one or two stories and a couple of bits of poetry. The "Topics of the Time," and "The Old Cabinet," by the editor contain some pungent writing.

Harper's for March is a profusely illustrated number—containing nearly fifty engravings. The opening article by Col. Thorpe, is a comprehensive sketch of the U. S. Treasury Department, and is interesting and instructive. In this number appears the first of two sketches of Lieut. Allan D. Brown, U. S. N. on "Naval Architechture, Past and Present", which is well illustrated and contains useful information. The article on "Northern Bolivia and its Amazon Outlet" by Col. George E. Church sets forth among other things the importance to the development of the Amazon valley of a railroad along the rapids of the Madeira river. Under the tittle of "The City of the Little Monk," Mr. M. D. Conway contributes an article on Munich, and will give a second paper on the same topic in the April number. "Negro Life in Jamaica" is another of the descriptive articles for which *Harper's* is so justly celebrated. Mr. Eugene Lawrence, who has become somewhat celebrated for his historical sketches, contributes to this number an article on "The Roman Capitol," which contains several fine dramatic passages. There are three short stories, one "A Case of Vitrification" by J. W. DeForest. The are also two or three pieces of poetry, and the usual Literary, Scientific, etc., departments are well filled,

The leading article in the *Galaxy* is by J. W. DeForest, entitled "The Colored Member" and is a rather overdrawn sketch of a colored member of a southern legislature, and the effect of the carpet-bagger on southern legislation. In view of our recent difficulty with Corea any information in reference to that country is acceptable. In this view the article in the present number of the *Galaxy* on "Corea and What Shall We Do With Her" is appropriate and is itself well worthy of a perusal. In "The Nether Side of New York" the pauperism of the city, and its public charities are well delineated. In the second paper with the title "Suggestions of the Past," we have more information in reference to Tyler's Administation, with some anecdotes of the men of that and later periods. Several articles are continued—among them; Trollope's "Eustace Diamonds," General Custer's "Life on the Plains," and "Fifteen Years a Quakeress". Perhaps the strongest article in the number is one by Ex-Attorney General Black, "Jurisprudence in New York." There are also several stories and poetry by Bayard Taylor and others. Eli Perkins in the "Club Room" is not near as good as last month.

The illustrations in Edward Whymper's "Scrambles among the Alps" in the March *Lippincott* are very fine, especially the full page ones. The number contains several of its continued articles. "The Strange Adventures of a Phæton" extends through the sixth chapter. "The First American Art Academy" reaches a second paper and a conclusion; and "Aytoun" covers two more chapters, the IV and V. A new series "At Home with the Patigonians" by Geo. C. Musters, is commenced, and Vére Goetz gives a historicalsketch, "The Empress Catharine on the Dneiper." In the article "Trial by Jury," Judge Albert S. Bolles advocates its abolition in civil cases. "Country Life in Virginia Now-a-days" gives something of an insight into the present condition of those freed by the war. The poetical contributions are three in number and there are also two or three stories.

In Old and New for March, the continued articles, "The Vicar's Daughter," by Geo. MacDonald, "Ups and Downs" by the Editor, and "Six of One by Half a Dozen of the Other, proceed, through, two, two, and three chapters respectively. There is also a discussion in reference to "The International," by C. F. Dunbar, and some interesting information in reference to "New Virginia," by E. A. Pollard, the rebel historian. C. C. S. contributes a curious account of the Junius letters, and there are several interesting stories, with the usual "Examiner" and "Record of Progress."

The *Lakeside Monthly*, published at Chicago, which brought itself so deservedly and generally into notice by its "Fire Number," appears this month with a good array of articles. D. H. Wheeler gives chapters III, IV and V of his story of real life on the prairies "Seventy Years Ago;" and W. W. Kinsley contributes a second paper on "When did the Human Race Begin?" Myron A. Munson describes briefly, "Vesuvius," and H. M. Bannister defends the present North Polar Expedition from the discreditable statements made concerning it, in various public prints, especially in the *Overland* of last September. Rev. E. O. Haven, D. D. contributes a paper on "Instinct in Animals," and there is a very interesting sketch by G. E. Patten, "Concerning Umbrellas." The remaining articles are "Lady Burdett Coutts;" "The Beaulieu Tragedy"; and "Dukrah the Dwarf." In *The Lakeside Review* we have "President Making," "Change of Creed," "Greater Britain," "The Ladies Car Humbug," and "Books and Literature."

The *Overland* for February opens with the third paper on "Wine-Making in California," and gives also as descriptive articles, an interesting chapter on Oregon's famous river, "The Columbia," and a few pages on "The Pallaces and Tombs of the Czars." "Woman Suffrage" is ably discussed in an article of that name, and there is a sketch of "Joaquin Miller," by one who has known him for twenty years. There are also quite a number of articles of fiction and one or two pieces of poetry.

The February number of *The Contemporary Review*, published in this country by J. B. Lippincott & Co., is a most valuable one. In this age of fast things, which is driving everything, even our reviews, criticisms, etc., into articles a few moments long, it is a pleasure to take up a periodical like the *Contemporary*, and feel that, if not so many topics are touched; yet those which are discussed, are handled thoroughly and comprehensively. Perhaps the article in this number which will interest the largest number of persons, is one by Rev. H. R. Haweis on "Henry Ward Beecher," and some idea may be formed of the completeness of the sketch when we say that it covers nearly thirty pages of this large review. Another notable paper is one on "Fenianism" by One who Knows, and still another on "What is Common Sense," by Dr. W. B. Carpenter, which is a look at mental processes from a scientific standpoint. The remaining articles are, "The Education Difficulty," by F. Seebohm; "Rationalism and Ritualism," by the Rev. John Hunt; "The Fourth Gospel," by Rev. Prof. Godwin; and "Dr. Newman's Essays," by the Rev. Edmund S. Ffoulkes.

The Saint Paul's Magazine, also republished in this country by Lippincott presents its readers with the second part of "Septimius," by Hawthorne; a second article on "Literary Legislators," by Henry Holbeach, of which the Duke of Argyll is the subject; the second part of "The Art of Beauty" by M. E. H.; and chapters IV and V of "Off the Skellig's" by Jean Ingelow. There are also "Snobbery as a National Characteristic," by T. A. Trollope, and "The Good Genie of Fiction:" Thoughts on reading The Life of Charles Dickens, by Robert Buchanan. The poetry of the number is entitled: "Phil Blood's Leap"; "Supreme Love"; "The Ballad of Judas Iscariot"; and "To Lydia Languish."

The *Phrenological Journal*, for March has among other things portraits and sketches of Geo. H. Williams, U. S. Attorney General; Geo. H. Hepworth; Harriet Hosmer, and Col. James Fisk; and also an interesting article on "Fish Culture in America.

The monthly part of *Appleton's Journal* contains the four weekly issues for February, and has among its other matter in almost endless variety, an illustrated sketch of Richmond, Va., one of the "Pine Woods of Maine" and one without illustrations of Clara Howe Barton, who has done such noble work in preserving the memories of the soldiers that fell during the last war.

Among the writers in *Wood's Household Magazine*, for March, are Horace Greeley, Gail Hamilton, James Parton, Dio Lewis, Thomas K. Beecher, Rev. J. B. Wakely, D.D., Rev. J. Milton Akers, and Eleanor Kirk. Gail Hamilton assumes control of this periodical with this number, as editor-in-chief.

The Coal and Iron Record, whose prospectus we

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noticed a few weeks since has appeared and proves to be an illustrated sixteen page periodical with a cover. It announces that it intends "to make a paper which will be an authority upon what may be done, as well as what is being done" by the coal and iron men.

We have received with the compliments of A. T. Judd, (Yale '62) No. I., Vol I., of the *Hawaiian*, an eight page monthly a little larger than a foolscap sheet, published at Honolula, Oahu. The prospectus declares that it proposes to become a recorder of events and gather together in permanent form scraps of Hawaiian history. Singularly enough the leading editorial article in this number is a defence of "Secret Societies."

Character.*—Mr. Smiles wields a versatile pen. He is more than a connoisseur in the literary world, or a compiler of other men's thoughts, he is an author. His writings are characterized by this feature or trait of the productions of genius, they are always suggestive of more than is said. His thoughts come into the mind of the reader as railroad engines do into a depot bringing a lengthened train with them.

His last book bearing the title "Character," is up to this time, his master piece. It exhibits the author's familiarity with the literature of the ages and an extensive reading of history. Every essential point made in his speculations, and position taken in theory is illustrated by historic references.

The book has the rare quality of furnishing the reader a double pleasure, that which results from following a writer in original or ingenious speculations, and that which comes from the interest we take in historic illustrations. The information one gathers of the men mentioned, is, by no means, a small part of the benefit of reading the work. Character is delineated in all its essential features. Its influence, as a power in the world, is first brought to view. In the following manner, it is contrasted with genius.

"Genius always commands admiration, character most secures respect. The former is more the product of brain-power, the latter of heart-power, and in the long run it is the heart that rules the life. Men of genius stand to society in the relation of "its intellect, as men of character, of its conscience; and while the former are admired, the latter are followed."

Character, as a home influence, and as a power in society, is clearly described and illustrated by numerous examples. Those elements, that must constitute the parts of a commendable character, are described; such as self-control, moral courage, truthfulness, obedience to the behests of duty, devotion to chosen work, carefully restrained temper and cultured manners. These elements, cultured in the discipline of experience, developed in selected scholarly companionship, make a man—what he was designed to be—a power in the world. The work is more than a hand-book for the formation of correct habits and a guide for those whose characters are yet unformed; it an inspiration to all worthy aims in living, and a help to such as would not have their life a failure.

* *Character.* By Samuel Smiles, author of "Self-Help," "Life of the Stephensons," "The Huguenots," &c.; and editor of "Round the World."

Border Reminiscences.*—Perhaps it is not best to be too fastidious about the title of a book. As an inscription for the one before us, there may be none better than that which it bears. At the same time, are the contents of the volume strictly reminiscences? Are they anecdotes which had escaped the memory, and are now brought back to the recollection? They may be such in rare instances, and, perhaps that is sufficient. But we feel very confident, from our own knowledge of the officers of the army, both the old and new, that the contents of this volume, at least to them, are not reminiscences. Not an old officer of the army has ever forgotten an anecdote here related. He has told them and heard them told ever since they happened, or were invented, and will continue to tell them as long as he can find listeners. To him, therefore, they are not reminiscences, for they have never been forgotton. As to the younger officers, the more recent graduates from West Point, and the late war appointments, most of them have never heard these anecdotes. They will be new to them perhaps, but not reminiscences. But, as we said at the outset, perhaps it is not best to be too fastidious about the title of a book.

To very few of the officers of the army will these anecdotes be new, unless it be to the very new officers. They constitute the wit-currency of the army, and have been in constant circulation ever since they originated. They have been told, and re-told, and told again, by every officer of the army; and some of them, not in the least related to Elisha, have told them more times than they have hairs in their heads. The older of these incidents were current during the Mexican war, and the late rebellion. We have heard them all, many times, in the camp and barracks, during the bivouac, and on the eve of battle. To us, there is nothing new in the whole volume, as there will scarcely be to any of the older officers of the army. At the same time, to the younger officers, and the newer officers, such as have never heard these anecdotes, they will be not only fresh, but exceedingly amusing. It is one of the pleasures of army life, to laugh at the faults and foibles of fellow officers. If it were not for this privilege, the monotony of army existence in time of peace could hardly be endured. Card-playing, when it constitutes the prevailing pastime, as it does at nearly every post, becomes irksome after a while, as do also the less common amusements. But the army anecdote, though related a thousand times before, is always received with roars of laughter or rounds of applause. It is especially agreeable if it have reference to some ludicrous incident in the life of a fellow officer; and the more grotesque, the greater the amusement, and the more frequent the repetition.

Intrinsically, many of these anecdotes have but little point, and even less pungency. They do very well for the officers of the army, who spend the greater portion of their time on the border, among savage brutes and still more savage men. But they are rather insipid when repeated to the civilian, who sees and hear better things, new and fresh, nearly every day of his life. They are even more vapid when reproduced in print, for they lack the embellishments of the verbal narrator, in many instances the chief attraction. Yet this is true of only some of them, and perhaps not even of a majority. In this volume, there are incidents of a very interesting character, some that are amusing, others that are witty, and still others that are valuable as bits of biography. Altogether, the collection of anecdotes is perhaps the best ever published of the officers of the army. It is by no means complete, however, for it omits some of the best and most popular. This is particularly true of Britton and Derby, the wits of the army. Perhaps the author of this work labored to avoid the relation of any anecdote which had previously appeared in print; but in doing so, if such were his purpose, he has omitted some of the cleverest things to which an American has given utterance. If we had space, there is one or two of Britton which we should gladly narrate for the amusement of our readers.

But aside from all these objections, none of which are very grave in their character, the work possesses merits worthy of especial mention. The foremost among these is the style of the narratives, which is rich and racy in expression, and graphic in description. The incidents, though having but little or no connection, are so grouped together, and divided in chapters, as to give the book the appearance of a continuous narrative. It will be found readable throughout, for the interest is not allowed to flag, and the style is preserved to the end. It is one of the best half hour books which has emanated from the American press. It will serve as well as any volume we know of, to while away pleasantly the lassitude of a dull hour. It cannot fail to add largely to the reputation of the author, and to his authorial popularity.

* *Border Reminiscences.* By Randolph B. Marcy, U. S. Army; Author of "The Prairie Travellers," "Thirty Years of Army Life on the Border," etc. New York: Harper & Brothers, Publishers, Franklin Square, 1872.

ALUMNI REUNIONS.

AMHERST ALUMNI IN NEW YORK.

The Amherst Alumni Association of New York met on the evening of Washington's Birthday at the residence of Mr. Waldo Hutchins on Thirty-seventh Street. About 150 invitations had been issued, and nearly all were responded to by their recipients. Among those present were Horace Greeley, Senator Fenton, Dr. Roswell, Dr. Hitchcock, Dr. Adams, Mr. Richard B. Kimball, Profs. Tyler and L. C. Seeley. The following officers were elected for the ensuing year: Waldo Hutchins, president; James S. Webbes, Colonel Mason, W. Tyler and H. M. Storrs, D.D., vice-presidents; Elliot Sandford, secretary; D. J. Sprague, treasurer.

The election of officers was followed by an elegant collation, songs by the Glee Club, and speeches from Horace Greely, Dr. Adams, Senator Fenton, several of the professors, and others.

BROWN ALUMNI IN PHILADELPHIA.

The Philadelphia Alumni of Brown University, held their third annual meeting on the 5th ultimo, at the house of Mr. Wm. Bucknell, on Walnut street. About fifty alumni and invited guests were present, among whom were, Rev. Alexis Caswell, D.D., President of Brown University; the Rev. Daniel Goodwin, D.D., Ex-Provost of the University of Pennsylvania; the Hon. James R. Ludlow, LL.D., and Hon. William S. Peirce, LL.D., Judges of the Court of Common Pleas; Samuel Gummere, LL.D., President of Haverford College; the Rev. J. Wheaton Smith, D.D.; the Rev. G. D. B. Pepper, D.D.; the Rev. G. D. Boardman, D.D.; the Rev. Matthew Simpson, D.D., Bishop of the M. E. Church; Rev. W. P. Breed, D.D.; and Frank Wells, Esq.

Previous to the supper a business meeting was held in Mr. Bucknell's Library, and the following officers elected for the ensuing year:—*President*, The Right Rev. M. A. De Wolfe Howe, D.D.; *Vice-Presidents*, The Rev. Henry Griggs Weston, D.D., William Badger, Esq.; *Treasurer*, Horatio Gates Jones, Esq.; *Secretary*, William W. Keen, M.D. At this meeting also suitable notice was taken of the death of J. Barton Mustin, M.D., the late Secretary, and the most active originator of the Association.

At seven o'clock the party were invited to the dinning room where a most sumptuous repast had been provided The room and table were adorned with choice flowers, and every delicacy of the season helped to make up the repast. After the supper the company adjourned to the parlors where Bishop Howe presided. He made a short speech, and then introduced president Caswell, who spoke of the importance of a thorough collegiate education. In the course of the evening speeches were made by Judges Ludlow and Peirce, Bishop Simpson, Dr. Breed, Col. Hutchins, Frank Wells, Esq., and Dr. Moss.

HARVARD ALUMNI IN NEW YORK.

The annual meeting of the Alumni of Harvard in New York and vicinity, was held at Delmonico's, Wednesday evening, February 21st. About one hundred were present including President Eliot, Librarian Sibley and Hon. Erastus Benedict, President of the Society of the Alumni of Williams College. The Faculty of Harvard, and representatives from other colleges had been invited to be present, but for various reasons were nearly all compelled to decline.

After the supper had been disposed of, William G. Choate, president of the club, opened the further exercises with a very pleasant speech. Alluding to the absence of the faculty, he said that the principal reason they all gave for not attending the festival was that they

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dared not leave Cambridge for fear of censure from the board of overseers for neglecting some regular exercise of the college. This he regarded as very significent. It indicated that the board was composed of a different class of men than formerly, when politicians and men of different sects were interested in the college itself, and formed the body. He concluded that the only way to secure the attendance of the gentlemen whose faces were missed to-night, was to influence the overseers to make this dinner one of the regular college exercises. He alluded, half seriously and half facetiously, to the wonderful progress of the college, and especially its recognition of women, remarking that by this action it had done much toward settling the question of the position of women, for it had established her position in the garden, which was the first point under discussion. He closed with a toast to our *alma mater*—"Strong in the affections of her sons, endowed with the perpetual youth of Old and the pride of New England, she has risen to the dignity of a truly national university."

To this toast, President Eliot was called on to respond by Mr. Choate who at the same time read letters from Theodore W. Dwight, LL.D. of Columbia College, and President Andrew D. White of Cornell, alluding in high terms of praise to President Eliot's administration of Harvard. President Eliot's speech was full of information respecting the work of the college and the improvements which are being made. He said the board of overseers was a constant wonder to him. It was composed of a large number of eminent and busy men, and the frequency of their meetings and their regular attendance was a source of astonishment. They sit in council two and three hours at a time discussing the condition of the college. Within a fortnight they have had three meetings, at which they debated vigorously the condition of the English department. Mr. Adams got infinitely more excited over these questions than over the discussion of international law. So does Mr. Hoar; and Frank Parker almost reaches the point of shedding tears. He thoroughly believed that they came to the meetings to enjoy and indulge in the pleasures of sparring. The college, he said, was never so full as now. The schools had been completely reorganized and the standard raised. Especially is this the case with the medical school. The college is now resorted to by all classes and all sects. The Harvard practice of giving to students freedom of worship was tending to break down sectarianism in our colleges. Educated Americans are coming to the conviction that it is impossible to found a university on sect in this country. We are gradually welcoming back, through the college, the South. There are thirty-three students now at Harvard from the former slave States. It used to be said of college-bred men that they are losing their influence in public affairs. This he believed was not the fact. Educated men are those who do the thinking, not the brawling or the praying. It will be noticed that when bold words are to be said or important acts done the college-bred men are those who come to the front. Who confounded the politicians at the recent San Francisco banquet to the Japanese with a few short, sharp, bold words? A clergyman, a graduate of Harvard. In Massachusetts, last fall, there was a political convention which threatened to be tumultuous and disastrous. Two brothers—Harvard men—led that convention adroitly and ably through a calm and peacefull end. In this State it is a first man in college [General Barlow] who was chosen to lead the contest against thieving city officers and a corrupt judiciary; and when government has the grave responsibility of appointing the tribunal at Geneva it chose every one from college-bred men. President Eliot concluded with a reference to the important questions before the country now; of the relation of educational, charitable and religious institutions to free government, and needs by the college of greater endowment.

After singing "Fair Harvard" the toast, "Our Sister Colleges" was responded to by Hon. Erastus C. Benedict, President of the Williams Alumni Association; the toast, "Our Medical Faculty" was drank in silence; and then by a maneuver of the chairman, Rev. Dr. Bellows was called on to respond for "The Bar," and Mr. Joseph Choate for the clergy. Mr. E. L. Godkin, editor of the *Nation* responded for "The Press." The exercises continued until a late hour some of the younger alumni staying after the older ones had departed, to renew acquaintances and live over again the days of college life.

In reference to the Harvard club of New York under whose auspices the annual dinner is held, it may be said that it was founded in 1865, "for the advancement of the interests of the college, and to promote social intercourse among the alumni residing in New York and its vicinity." The club now numbers 147 members. It holds social meetings monthly at Delmonico's, except during the summer months. Its presidents have been Samuel Osgood, Frederick A. Lane, John O. Stone, Henry O. Bellows and James C. Carter. William G. Choate is the present president; Wm. M. Pritchard, Geo. C. Ward, and James F. Lyman, vice-presidents; A. W. Green, secretary; Francis M. Weld, treasurer; and Norton Folson, G. W. Dillway, John Greenough, F. R. Halsey and William Montgomery, executive committee.

AMHERST ALUMNI IN BOSTON.

Nearly a hundred of the alumni of Amherst College, resident in Boston and vicinity celebrated their annual reunion at the Parker House Wednesday evening, February 21st. The occasion was one thoroughly enjoyed by all present. Nearly two hours were spent over the supper, as a preparation for the exercises which were to follow.

At about eight o'clock Mr. A. B. Ely, president of the Association, rapped upon the table and began the more literary part of the entertainment. He expressed his joy that the college had kept on in the way it had begun, never making any attempt to copy the ways of other colleges. In this way, he said the college would always be first-rate. He thought that the $100,000 for which the college had just asked the State, should be given it, and that if the alumni pressed the matter, as they should, it would be given.

President Stearns followed with some interesting statements in reference to the college. He said the occasion brought to his mind the jubilee of last summer, an event to which he always looked back with gratitude to God. He affirmed that Amherst College is now a power in the country and asked, if fifty years can bring up such a college, with nothing to start with, what can the next fifty years, with 1500 alumni do? He said he had been considering what might be done to improve the character of these gatherings, and suggested that a series of short papers might be read on important subjects of education. But my statements, said he. should be statements of figures and facts. The college is now about $15,000 in debt, and overruns its receipts about $4000 a year. The new buildings and the new church have cost it nothing; all that is asked is that the college will accept the church. To be sure it is not yet completed, and more money is needed. The village church cost $12,000, and never cost the general fund a cent, but it is necessary for the use of the college. The new buildings have all been given to the college. The debt was incurred by the rebuilding and repairing of the old college chapel, and by a necessary increase of salaries. The repairs of the college were imperatively necessary, and the salaries had to be raised because the working men of the college could not live and support their families. They could double their salaries if they would go elsewhere. Again, these special bequests necessitated further expense on account of the general fund, and the college has to supplement all these special bequests. The price of tuition is small, and always has been much less than the real expense. Therefore the college must have money; it will go on and live, but it must have money to attain its full meed of prosperity. Our special funds too have been increasing. The Sears fund and the charity fund are gaining, and they are to go on constantly increasing. Massachusetts has liberally helped Harvard, Williams and Tufts, but the total amount given to Amherst is only $52,500, and Amherst has given to indigent students three times as much as that. Massachusetts owes it to Amherst and I hope that they will give it. Further than that, the State rather prefers to help all those who help themselves, and no institution in the country has done as much unaided as Amherst has. The college gave its best men in the hour of the country's trial; gave them freely. Give us back the noble men who went down battling for Massachusetts and the right, and you may take your hundred thousand dollars. Amherst is needed by the country. It must be sustained, and no doubt will be when Massachusetts understands the case.

After a song Professor Seelye was introduced as one of the men who stood by the college when he could do better elsewhere. He spoke of some of the principal reasons why Amherst held so high a place in the estimation of all its alumni. One thing which has tended to to such a result, he thought, was the place given to physical culture which was President Stearns's idea carried out by Dr. Hitchcock. Another thing. Dr. Seelye thought, was the care given to each student, the individual efforts of each member of the faculty, and the hearty good fellowship of professor and student.

Mr. E. T. Dyer, of the class of 1861, then read a witty poem which caused much merriment, Mr. C. W. Turner of '65, made a brief speech then a song entittled "The College Bell" and written for the occasion by Rev. Alfred Bryant of '62, was sung to the tune "The Last Cigar." Speeches from various ones followed. The Rev. E. A. Grosvenor of '67, gave an interesting account of the success of Robert College, as he called it, the Amherst College of the East. W. W. Eaton of '68, now teacher in Phillips Academy, Andover, said that he was glad that several men from Andover were going to Amherst, and he was always glad to recommend the college to any of the pupils under his care. Another song, and then Dr. Chapin of Winchester, the oldest graduate present, was called upon. He gave a very interesting account of the early days of the college, the celebration of the obtaining of the charter by a fifty-cent supper. Those were the days when board was a dollar and a half a week, and walnut wood two dollars a cord. Dr. Chapin thought that expenses ought to be reduced so that students should not be deterred from going to college. Edward B. Gillette of Westfield, of '39, expressed his satistaction and pleasure at these reunions. The Rev. J. H. Tyler, a missionary to the Zulus, made a few remarks. R. Goodman, Jr., of '69, compared Amherst favorably with Harvard. The Rev. Dr. Manning of the Old South of '51, George F. Homer of '34, and Joseph Nickerson of '50, brought up some interesting reminiscences. E. A. Thompson of '71, of the Woburn High School, M. C. Stebbins of '51, of the Springfield High School, Rev. L. H. Angier and Mr. Chilson of Northampton also spoke briefly, after which resolutions were passed thanking Mr. M. F. Dickinson, Jr., and the committee for their labors, and referring to that committee the question of inviting ladies to the reunions in the future.

COLLEGE RECORD.

Western Reserve College, (Hudson, O.)—Washington's birthday was celebrated in the chapel at this institution after the manner of the custom inaugurated by the class of 1869. The exercises were opened with music by the college orchestra, which was followed by prayer by President Cutter. Passages from Washingtons Farewell Address were then read by W. A. Robinson, '72. The oration was delivered by R. W. Tayler, '72, and, departing somewhat from the usual

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course of such efforts, treated of the administration of Washington, his statesmanship, and personal character. The poem was delivered by J. R. Carey, '74. His subject was "A Tale of the Revolution," and the poem was thoroughly enjoyed. The exercises of the evening were closed with a collation in the society halls.

Valuable additions have recently been made to the philosophical apparatus of the college among other things, a new air pump from Ritchie & Sons.

The appointments for Junior Exhibition are; C. A. Gates, Greek Oration; J. H. Vance, Latin Oration; and S. C. Palmer, Philosophical Oration. The Colloquist, who is elected by the class, is F. W. Taylor.

Bowdoin College (Brunswick, Me.)—The medical term opened on the 15 inst. The opening lecture was by Alfred Mitchel M.D. lecturer on pathology and therapeutics. The number of students in attendance is between 60 and 70. Dr. Thomas Dwight Jr. of Boston succeeds Dr. Ford of the Michigan University in the chair of Anatomy, Dr. T. T. Sabine of New York, Dr. Green of Portland in Surgery. Professor Chadbourne, who served the college for several years in the department of Chemistry and Natural History after the death of Prof. Cleaveland, and more lately filled the presidential chair of Wisconsin University, has returned temporarily to Bowdoin to the chair of Mental and Moral Philosophy. Prof. George D. Vose C.E. has commenced his duties in connection with the Scientific Department, and Major J. P. Sanger, U. S. A. detailed by the Government as Military Professor, has commenced recitations with the senior class of the college in International Law. It is expected that he will give some instruction to the three lower classes in tactics and military drill, and have recitations from the two upper classes in Military Science and History.

Cleveland Medical College (Cleveland O.)—*To the Editor of the College Courant:*—The commencement exercises of the Cleveland Medical College, which is the medical department of the Western Reserve College, took place on last evening in the lecture room of the College—the medical college—in this city. In the afternoon of the same day, pursuant to the call of the faculty of the College, a large number of the alumni met in the same place, for the purpose of organizing a permanent society, which, although the graduates of the college number from twelve to fifteen hundred, has never before existed. Dr. J. E. Darby was called to the chair, and Dr. F. Wells chosen secretary.

On taking the chair, Dr. Darby made a few remarks in regard to the object to be accomplished, setting forth the necessity of a regularly organized society of the alumni of the college. He said that at present, without any such meeting of the alumni in connection with the commencement of the college, there is not enough interest felt by the old graduates to draw them together on those occasions. He believed that the prospect of meeting with their old class-mates would be a strong inducement to them to return each year and renew their interest in the institution and in each other, by attending a meeting of their fellow-graduates and the regular commencement exercises of the college. He said that at present the interest of the graduates so soon wanes after leaving the college, that even though they live in the city they scarcely ever so much as attend the college commencements. The interest in the commencements seems to extend no farther than to those about to graduate, and to those who are still in the midst of their studies.

The importance of such an organization as an auxiliary to the college, and its effect upon the alumni thereof, must be very marked, if it even approximate the good which has resulted from similar societies to other institutions. Students about to graduate feel a deep interest in the welfare and prosperity of each other and of the college. It has grown during their stay in college, and is keen at the moment of separation. But when they enter iuto the business of the world, they form new ties which, in very many cases, make them lose their affection for their *alma mater*. It would be otherwise, if the commencement of the college could be made of such interest to the alumni, as to draw them together each year on that particular occasion. In that way their interest in the college and each other would be continually renewed, and greatly strengthened. These meetings would also serve to cheer and stimulate them in their professional labors, which, except in rare instances, is the work of their lives.

Dr Darby was followed by Dr. Wells, and their remarks together set forth clearly the advantages of the organization of the alumni into a society, and were heartily concurred in by all who were present. After their remarks, a committee appointed to nominate officers of the new society, presented the following: President, J. Lang Cassells, M.D.; Vice President, John Bennett, M.D.; Corresponding Secretary, Frank Wells, M.D.; Orators at the society meeting, J. P. Curtland and J. S. Newberry; Poet, R. F. Wark. The nominations of these officers were confirmed by their unanimous election.

Professor Cassells, after his induction, made a few remarks, in which he thanked the members for the honor they had conferred upon him. He dwelt somewhat upon the necesssity of just such an organization as had been completed. Drs. Halliwell and Castle also made some remarks in keeping with the general spirit of the meeting. After which, the object for which it was called having been accomplished, the meeting adjourned.

The alumni of the college are to be congratulated upon their action, and they have cause to rejoice over the accomplishment of their organization. Hereafter the commencement anniversaries of the college will doubtless call together many of the old graduates, who have not heretofore felt sufficient interest to attend. The meetings will be held regularly on the Tuesday preceding the college commencement day.

The evening of commencement, exercises were opened with prayer, by Rev. Dr. Cutter, President of the Western Reserve College, a large audience of ladies and gentlemen being present, notwithstanding the rain and mud, which doubtless prevented a much larger attendance. Diplomas were presented to the members of the graduating class, thirty-four in number, whose names are as follows: H. H. Baker, E. H. Barrack, A, C. Beagler, A. J. Brooks, B. F. Conkle, E. J. Cook, G. W. Dille, —. —. Drake, G. C. Dumm, A. D. Ebright, S. F. Fitzgerald, J. S. R. Hazzard, T. B. Hicks, A. J. Leslie, F. W. Magill, T. A. Montgomery, R. L. Paterson, W. M. Paden, J. W. Palmer, —. —. Pennell, —. —. Riggs, —. —. Satterlee, M. Stevens, F. B. Stevenson, N. B. Stubbs, A. H. Tidball, J. G. Tidball, A. Travis, E. C. Volz, J. W. Wells. J. F. Wilson, —. —. Wortman, —. —. Wood, Frank Young.

President Cutter made a few appropriate remarks in presenting the diplomas, after which the valedictory address was delivered by Dr. E. H. Barrack. I have not space even for a sketch of this address, which was of a most instructive and entertaining character. The graduating class must have been pleased with their representative, and the faculty felt that the standing of the college in other days had not been lowered. A feeling allusion was made to the loss by death of Drs. Palmer and Terry. The address concluded with a farewell to the class and faculty.

The regular college address was delivered by Rev. E. B. Raffensperger, of this city. He referred to the union of arms and work of the clerical and medical professsions, in their efforts to relieve pain and suffering. He claimed that a man intellectually or morally unfit for one was unfit for the other. He spoke from a ministerial standpoint of the qualification of a physician. The following are the heads of his discourse: First, mental ability—diplomas were supposed to be evidence of such ability, but a sheep skin never should hide a wolf in society. Second, common sense—no amount of knowledge will compensate for the lack of common sense. Third, genuine philanthropy—no time or occasion in a physician's life is free from the call of sickness and distress; he knows no rest this side of the grave. Fourth, good breeding—a polite manner, decent language, and neat apparel are needed no where more than in the sick room. Fifth, total abstinence from both intoxicating liquor and tobacco. Lastly, "faith in God"—that the physician needed such faith as much as the clergyman.

The exercises of the evening were closed with a benediction, which was pronounced by Rev. Dr. Hitchcock. Throughout, the exercises were full of interest, and yesterday may be recorded as one of the pleasantest and, on account of the formation of the Alumni Society, one of the most important of the commencement anniversaries of the college. T.

Cleveland, Ohio, Feb. 21, 1872.

Yale College (New Haven, Conn).—The news of the week at Yale presents no very striking changes.

THE MEDICAL SCHOOL.

The spring term of the Medical School commences March 7th, next week Thursday. The course of study at the Medical School now covers three years, and the classes bear the names Junior, Middle, and Senior. Graduates of colleges enter at the beginning of the Middle year, while those who have not this preparatory discipline must study three years and attend two courses of lectures. The years consist of two terms of seventeen weeks each, the one beginning March 7th, and ending July 9th, and the other begins October 17th, a month later than heretofore, and ends February 13th. All who intend to graduate are required to attend the latter term. A reduction has been made in the price of tuition so that $100 in one payment at the beginning of either term pays tuition charges for the entire year. The tuition for a single term is $60. The faculty of the Medical School now numbers twelve, and the reputation of the instructors together with the well known thoroughness of the instruction imparted, render the school a desirable place to pursue the study of medicine.

THE TAYLOR RHETORICAL SOCIETY.

The second public exercises of the Taylor Rhetorical Society, the debating society of the Yale Theological Seminary, were held in the Marquand Chapel last Wednesday evening. The chapel was nearly filled with an attentive audience of ladies and gentlemen, among whom were several professors of the seminary and of the academical department. The exercises were opened with prayer by Rev. Dr. Bacon, after which a choir composed of students sang a fine selection. Mr. Geo. O. Whitney, of New Haven, then read with rare power selections from the beginning and close of Tennyson's Enoch Arden. After a song by a quartette, Mr. J. S. Chandler, of New Haven, read a very interesting essay, in which was shown fine descriptive powers, entitled "A Mountain Sanitarium." It was a description of a retreat in the mountains of Southern India in which the missionaries take refuge during the hot summer months. After another song, a debate followed upon, whether the old man ought to be condemned for stoning the boy from his apple tree as recounted in Webster's spelling book. Messrs. G. W. Benjamin of New Haven and G. A. P. Gilman of Laconia, N. H., maintained the affirmative, and J. S. Ives of Castine, Me., and A. H. Adams of Cleveland Ohio, the negative. Another song followed and then Clayton Wells, of Wethersfield, Conn., delivered an earnest pungent oration upon the duties of "Laymen." The oration showed research and care in preparation and some of the statements made were almost startling. A song concluded the public exercises, but in accordance with an invitation from the president of the society, E. W. Miller of Williston, Vt., quite a number staid and spent some time in social intercourse.

MISCELLANEOUS MATTERS.

Prof. Eaton's lecture at the Art School last Monday evening, was upon "Lysippus—School of Pergamus—The Dying Gladiator—The Apollo Belvidere." The lecture was well attended and was exceedingly interesting. In the Mechanics' Course at the Sheffield Scientific School, Prof. Johnson treated of "Phosphorus."

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In connection with the lectures in the Mechanic's Course, we are requested to announce that Profs. Norton and Barker will change places, that is next Monday evening Prof. Norton will lecture on the "Forces of Inanimate Nature," and on the Monday evening following, March, 11th, Prof. Barker will lecture on "Tilghman's Sand Blast Engraving Process."

The *World* of Friday, Feb. 23d, has both an article and an editorial on the revison of Webster's Dictionary by President Porter, in which he is charged with mutilating Webster's definitions in order to make the work a "party document for disseminating the political crotchets of Radicals." The editorial affirms that the article was "prepared by a ripe scholar whose works in his own department of literature have long held the first rank."

Prof. Harris preached at the College Chapel last Sunday forenoon, and ex-President Woolsey in the afternoon.

The *Yale Courant* has computed the time actually used in College as follows: Allowing thirty-two weeks of recitations during the college year the time spent in recitations, exclusive of composition exercises, lectures, and examinations, amounts, for the entire course to 1,752 hours, or 219 working days of eight hours each. This is very nearly equal to an entire collegiate year which only comprises about 230 working days. The time passed in prayers and church amounts to 640 hours or 80 days of eight hours each.

A new reading room committee has been appointed, consisting of Mr. Fitch, Prof. Coe, and Mr. Heaton.

Jameson, '72, is pursuing a legal course at the Law School, and several others think of so doing. A favorable arrangement of recitations and lectures is made for this purpose.

Notman is engaged in photographing the senior class, S. S. S., this week, will take again unsatisfactory pictures next week, and then will be able to attend to outside and special orders.

The rights and wrongs of the Alabama treaty have furnished during the past week a universal topic of discussion among the intellectual giants of college.

Commons celebrated the birthday of the Father of his Country, by a dinner of oriental magnificence.

The pitching alley has been subjected to the wonted abuse of privilege. The students have contracted a habit of pitching to each other from either end instead of using it in its legitimate way and pitching against the wall intended for that purpose. Moreover, the students in many cases, finding the alley occupied have made use of the bowling alleys. As a result, looking glasses have been smashed, windows broken, and spectators molested. The faculty have accordingly interfered, and a set of rules for the alley will be posted up. If these are not generally observed either severe penalties will be visited on offenders or the alley closed.

A couple of Seniors went over to Divinity Hall the other day, with the intent of stealing a bath. The theologues in some way became aware of their presence in the bath rooms and endeavored to intercept them. One of them was chased over to Durfee, but at last succeeded in making his escape. The other was caught however, by the janitor and a crowd of infuriated theologues who after due consideration of his offence, sentenced him to attend the next meeting of the Taylor Rhetorical Society.

An unknown correspondent of *The Yale Courant* complains of the lack of boxing gloves at the gymnasium, and pleads for an instructor there, capable of teaching the manly art or at least for means to prosecute the study appropriately without this assistance.

The *Yale Courant* says one of the aristocratic Seniors of Durfee, celebrated Washington's birthday by parading through his classmates rooms in an inverted robe de chambre, i. e., with his lower limbs through the sleeves. Some practical jokers acccordingly "bagged" him by trying the upper half over his his head, and in this interesting state he remained for half an hour, until at last by a series of inversions he liberated himself.

The Linonian Juniors have chosen the following subject for prize debate: Is Froude's treatment of Thomas Cromwell, just?

The first white boy ever seen in Yeddo, if not in Japan, graduates at Yale this summer.

The Seniors began attendance on Medical lectures at the Medical College on Monday last. With these under Prof. Sanford at 3 o'clock, and Natural Theology under the President at 5 o'clock, the afternoon becomes less a time of relaxation.

The Astronomical Professor received quite a severe fall in coming out of Chapel last Sunday morning, and his hat, cane, and spectacles, projected themselves in different directions with very considerable velocity.

The *Boston Congregationalist* thinks the portrait of Prof. Loomis in the *Yale Almanac* is "altogether admirable."

The Course of Berkeley Sermons ended with the sermon last Sunday night by Rev. Dr. Schenk. If health permits however, Bishop Williams will preach one some time in March. The series has been a decided success, and reflects great credit upon its originators. We may have something to say upon the plan at some other time.

The Freshmen celebrated Washington's Birthday with the usual display of bangers.

YALE PERSONALS.

'20, '53, WOOLSEY, LEWIS.—At a meeting of Cobden club of London, held at their rooms February 9th, Ex-President Woolsey and Charlton T. Lewis were, among others, elected members.

'37, PIEREPONT.—Judge Edwards Pierepont has gone to Georgia on buisness connected with the Brunswick and Albany Railroad.

'38, THOMPSON.—Rev J. P. Thompson, who was invited to deliver at the University of Berlin, a course of lectures on the constitutional history and civil policy of the United States, has been obliged to decline the invitation on account of his health.

'44, WASHBURN.—Mr D. McAllister, General Secretary of the National Association to secure the Religous Amendment to the Constitution of the United States writes to the *Tribune* of recent date and affirms that he has a letter in his possession written by Gov. Washburn of Massachusetts, in which occur the words, "I approve of your movement." This approval was sent he affirms in answer to a call for the Cincinnati convention and a note in which were the following words: "Trusting that the inclosed call meets your approval, your name is solicited to be added with those of the gentiemen concurrring."

'45, CHILDS.—Died at Cotuit, Mass., January 26th., at the age of 75, Mrs. James Childs, formerly of Nantucket, Mass; mother of Rev. Alexander C. Childs of Charleston, Vt.

'57, POWERS.—Rev. Henry Powers, recently pastor of the Elm Place Cong. church, Brooklyn, N. Y. has been preaching at the Academy of Music in that city, and proposes to establish an "ideal church" as existing churches are not in his opinion sufficiently liberal for practical purposes.

'71, LANDMESSER.—L. B. Landmesser, who recently spent a few days with his friends in New Haven, has returned safely to his home in Wilkesbarre, Penn., and is now quietly engaged in prosecuting his legal studies.

'71, RYERSON.—A. Ryerson is studying law in Chicago with the design of spending the next year in the same occupation either in Chicago or New York. His address is care J. T. Ryerson, Chicago Ill.

'71, SEESSEL.—Albert Seessel is in the mercantile business with his father in Memphis, Tenn. His Post-Office address is care of A. Seessel and Son, 259 Main St., Memphis, Tenn.

'71, SHERMAN.—L. A. Sherman spent last Sunday with his friends in New Haven, He is prospering well in his labor of teaching at Ellington, Conn,

'71, WOODRUFF.—I. O. Woodruff is at present in the wholesale Book and Music store of his brother, in Quincy and will remain there until July next. His Post-Office address is Drawer 2137, Quincy, Ill.

GLEANINGS.

PERSONAL.

— Professor Tyler's History of Amherst College will soon be published if a sufficient number of subscribers can be obtained.

— President Eliot of Harvard, visited Amherst College recently, for the purpose of investigating its system of physical culture.

— Professor S. S. Hammel of the Illinois Wesleyan University at Bloomington, Ill., is about to publish a text book on Elocution.

— Lieut. Wm. J. Hamilton, late assistant professor of Mathematics and Military Tactics in Cornell University, recently died at his home in Bristol, Pennsylvania, aged 28.

— Rev. Dr. Hamlin, President of Robert College near Constantinople, preached in the Church of the Disciples in Boston, last Sunday forenoon, and in the Park street church in the afternoon.

— Charles W. Elliot, President of Harvard University, has been appointed by the President a member of the Board of Visitors at West Point, in place of Prof. J. R. Loomis, who is absent in Europe.

— Rev. W. E. Merriman, president of Ripon College, Wisconsin, delivered the seventh lecture of the Boston Course on Christianity and Scepticism in the Old South Church, Boston, last Sunday evening, upon "The Limitations and Connections of the Personal Work of Christ in the World."

COLLEGE.

— The efforts of Cornell to start a navy are likely to prove successful. President White promises a heavy contribution.

— The students of the Theological Seminary in Hartford were addressed Monday, by Rev. Mr. Barnum, of the East Turkey Mission, and by Dr. N. G. Clark, Secretary of the A. B. C. F. M.

— It is affirmed that steps are being taken to secure from the highest legal authority in Massachusetts a decision of the question, whether a college has a right to compel a person of legal age to attend church.

— Rev. Dr. Burr, author of "Ecce Cœlum," "Pater Mundi," etc., delivered a lecture in the Theological Seminary in Hartford, last Monday evening, on "The Hypothesis of Evolution." The effort is described as a very fine one. We are informed that the single lecture is to be extended into a course.

— Washington's birthday was celebrated at Hamilton College in the the University Chapel, with music, reading portions of Washington's Farewell address, by Fred. E. Brooks; an address by John Green; a poem by Geo. E. Weeks, and an oration by James A. Pierce, all of the Junior class. In the evening literary and social exercises were held in the Æonia and Adelphia Society Halls.

— The chapel at Amherst has recently received the following donations: two large furnaces costing $200 from A. C. Barstow of Providence, R. I., three rose windows costing $350 each, from Deacon Eckley Stearns of Woburn, Gov. Onslow Stearns of Concord, N. H., and a church in Bedford. A pulpit to cost $1000 is to be provided by a church in Cambridgeport, of which President Stearns was pastor at the time he accepted the presidency of the college.

— From the statement of the treasurer of Amherst College we learn that the total recepts during the year ending August 1st, 1871 were, $47,173.49, of which $23,157.95, were from term bills, $19,424, from income of funds and the rest from various sources. The expenditures counting the cash on hand, etc., during the same period were $51,417.66. The items of expense were: salaries, $33.171.46; chapel preaching, $390; Prof. Dwight's lectures, $300; interest on notes, $1456; society taxes, $784; printing, $771.85; new tin roof for dormitory, $725,25; jubilee expenses, $1341; fuel, repairs, labor, etc., $8,428,28.

— The following resolutions have been made public, as embodying the determinations for the coming year of two young swains at Iowa State University: WHEREAS, Reviewing the history of the past we discern some improprieties of conduct; and, WHEREAS, Very much of our future happiness must depend on a proper course of life; therefore, *Resolved*, That in the coming year—'72—we will neither offer ourselves as escorts, nor accept company after we are half way home from church. *Resolved*, That we will neither presume to ask, nor condescend to receive a kiss at the door except it be from an *intimate friend*. *Resolved*, That to the best of our ability we will refrain trom *flirting*. *Resolved*, That a copy of these resolutions be tendered *The University Reporter* for publication, and another copy be sent to "*Our Guardian Angels*."

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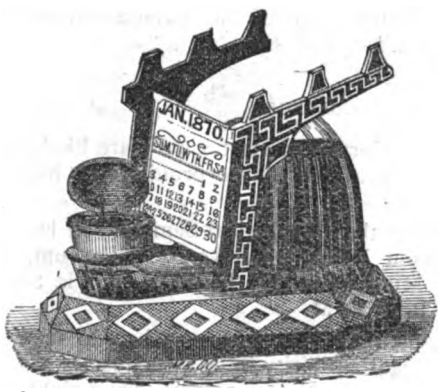

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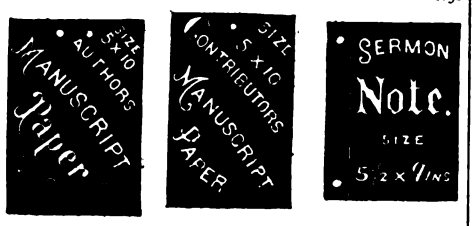

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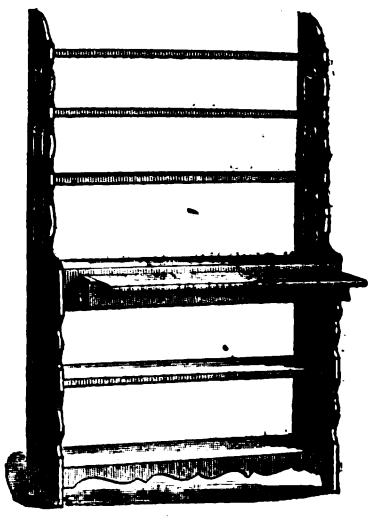

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, MARCH 9, 1872. NUMBER 10.

BEECHER'S LECTURES.

BY PROF. J. M. HOPPIN.

The recent course of lectures given by Mr. Beecher in the Marquand Chapel connected with the Yale Theological School, has come and gone like a whirlwind of rhetorical suggestion and inspiration sweeping through our calm scholastic atmosphere, setting all things in agitation and leaving behind, we hope, abundant seeds of good. A college world needs this occasional stirring up. It falls into a quiescent state, or, while intellectually active, tends to grow morally dull and wanting in enthusiasm. A strong blast from the world outside whirling through these monastic shades brings with it new life. One very interesting feature of these lectures is, that they have attracted crowds of academical students who have heard them apparently with admiration and delight. A noble ideal of the Christian ministry has been held up before these young men—no stinted pattern—and they have been led to see that a preacher of the right stamp is the largest style of man, one able to lead others by his vigor of mind and greatness of heart; and that no half, or quarter, or fragment of a man, finding his way into the world, was meant by God or the eternal fitness of things to be employed in this calling. They have been led to understand that the Christian ministry is itself an honor, not something to be taken up with grudging and groaning, and as if conferring honor upon it, but with courage and gladness, as the happiest and most desirable of professions. It was enough to see Mr. Beecher himself, so full of enthusiam for his work and full of honor too in it, strong and buoyant, overflowing with genial wisdom and robust common sense, in 'blood-earnest' to prove that preaching is the greatest work a man can do and that it takes a man to do it, launching his wit like forked lightning, rising into bursts of powerful eloquence in which voice and hand and eye all spoke at once, and turning as suddenly to lay a gentle hand on the heart in touches of true pathos and poetry; and whatever there was in the man of power and wit, of feeling and thought and eloquence, all brought in subordination to the purpose of serving Christ and convincing others that his service was a glorious and joyous service.

Mr. Beecher commenced by saying that he intended to treat preaching as distinct from the general work of the pastor, and as expressing *a living force upon living men* either for immediate or remote results. It was a personal force, such as a mother exerts upon her child, and that its great object was to develop in men a perfect manhood of which Christ himself forms the ideal. The secret of this is in studying the individual, and in adapting the truth to every soul. The ideal Christian preacher is he who takes the great truths of Christianity, and so makes them his, that he can preach them as if God preached through him, as if he were indeed "a little Christ;" at the same time adapting the truth to each individual. It was two or three years, he said, before he learned how to preach, before he learned how to take aim, and hit, without wasting his powder and shot. But every man must learn this for himself by trying and failing, and not be discouraged if he had not learned the art of preaching in ten years. He must make himself the attractive and efficient organ of truth, a man whom people love and love to associate with, a worker with men, a royal good fellow, one who knows other things than those that belong to his own calling, who is all things to all men in order to save some, expecting to make mistakes, but intent on the work of "character-building."

Having thus sketched his plan with a few bold strokes Mr. Beecher proceeded to fill up the picture with more elaborate finish. Preaching is the art of moving men up from a lower animal to a higher moral and spiritual plane, and the true preacher must regard sermons as only means to this end, and it is a good sign when a preacher thinks more of his people than he does of his sermons. Great sermons are often great nuisances. The English preachers who come over here and enchant us have their "dew on the mown grass" sermons; and the young preacher may get puffed-up by having a few good sermons that have brought him reputation. The earnest preacher is above this display of himself. If efficient in reaching men he should give up his big hooks and be content to use little ones. How "willowy" and full of adaptability was the apostle Paul, a stiff and proud man enough by nature. Thus studying men, and preaching out from himself and not from a theological system, he never will lack subjects for sermons, his only complaint will be that there are not enough Sundays in the year. The great qualities of a preacher are fruitfulness in moral ideas, the power of moving men, the sense of the unseen, or the faith-power, common sense and the grace of self-abnegation.

In carrying out the idea of the preacher's personality as essentially involved in his success with men, which idea ran through all the lectures, Mr. Beecher was particularly happy, and here we think was and is his strong point. The preacher should make the most of himself, should cultivate all his faculties, the love of the beautiful as truly as the reasoning powers, should replenish his mind from every source, from agriculture, horticulture, science, art, nature, and then should give himself wholly to the *business of preaching*, of catching men; and he would find use for all his acquisitions, because men are so different, and one man must be reached through one faculty, and another through another. He who has no eye to the beautiful loses the the poets of his congregation, and he who does not know how to reason loses the logical minds.

In fact the lecture on the "Study of Human Nature" was the most characteristic and valuable, though it may not have been the most eloquent of his course. Politicians study how to combine men, merchants, how to make the most profit out of them; lawyers study the character of judges and jury, mothers the nature of their children, and should not the preacher for his purposes know men? He cannot be the mere ecclesiastic organ-grinder, but he must know men in the broad school of life. He must study the Bible in the lives of men. We know now more than the Apostles, and we have but to follow out their principles; it is by neglecting this study of men that the gospel has done so little in the past 1800 years. This human side of preaching had been neglected. But there is also need of other kinds of knowledge; and nothing more is more useful than the knowledge of psychology, and from a physiological stand-point. Mr. Beecher's metaphysics, he freely confessed, were formed on the science of phrenology, and he was in the habit of asking himself "where does the equator-line run in a man's head?"

Men should be studied not only from the scientific side, but for constructive purposes, in order to build men up and reconstruct them in character. We must find out what to build upon. The preacher must take kindly to men, to omnibus-drivers, gate-keepers, stokers, engineers, all sorts and conditions of men, to discover some common ground in them upon which to begin the work of character-building. Mr. Beecher lays great stress on the possession of the quality of Imagination in the preacher, not so much in its relations to fiction and art, but as that power by which spiritual things are laid hold of and brought near, and presented with a powerful vividness and realness to other minds. Thus the conception of God which he was able to form through Christ, had been to him his main strength and inspiration. Through Christ alone he was enabled to see Him who is invisible.

Another prime quality of the preacher is Emotion. The Bible as an Oriental book was full of this element. This quality grows by use, as it is also killed by disuse; and one great obstacle to success was the nursing of that mock idol of the pulpit—dignity. Let a preacher have good ends and then not be afraid to speak himself out, even if the feeling sometimes takes a momentary direction of mirthfulness. In the pulpit be sure of your ends and of the purity of your motives, and then drive ahead fearlessly. If you cannot be natural and free you had better leave preaching and be a professor in a college! A third element of great importance was Enthusiasm. This will do more with most communities than anything else This inoculates others with our views. Great solid men will sometimes do little, where some little enthusiastic whipster will carry all before him. A higher element still was Faith. To be able to say, "I know in whom I have believed" is better than to be able to prove everything by the most irrefragable logic.

The lecture upon the rhetorical preparation for the ministry gave many pithy practical hints as to the cultivation of manly grace in carrying the body, personal training for speech, and the use of the voice. A man must rid himself of his faults by persevering effort and drill. A great, long, awkward, quirky fellow cannot pray himself into gracefulness. High sharp tones of the voice are sometimes needed to drive home sharp incisive thoughts. The emphatic pronunciation in the pulpit of the homely Saxon word "shan't" on one occasion left an ineffaceable impression on his mind. The preacher should acquire the power to use his voice without strain; he should make it flexible, should break it up, knead it, render it serviceable for every purpose, high or low, for every tone, mild or vehement.

The lecture upon "Illustrations in Preaching" was the most beautiful of the course and was itself a magnificent illustration and verification of the subject. There was poetry enough in this lecture to have enriched a dozen ordinary sermons. It seemed to bubble up and flow over in abounding wastefulness as from an exhaustless fount; and yet it was profitable to hear the lecturer say that even this faculty had been greatly the product of cultivation with him, adopting this method as he did as a matter of principle, from observing that in the education of the world by God, it had been done by making man understand the unknown through the known; and that most minds were more readily taught by analogues and pictures than by logical arguments. How people lighten up when the preacher says "This is like." Even children begin then to listen and cease to play. Illustrations are also good as pulpit tactics, allowing side attacks. A man may be reached indirectly by being brought to condemn in another man what is condemnable in himself. The preacher should teach himself to draw illustrations from all things about him, sharpening his sight and his insight to see natnral resemblances of truth until "the heavens show the glory of God and the earth his handiwork."

In this lecture, as in others, Mr. Beecher afforded an apt example of the vivivic power there is in analogical reasoning, or at least in the use of metaphorical language, summoning by a word a whole class or group of objects to aid the thought, which is useful in a community where logic and the colorless language of intellectual ratiocination as the first process toward moving the will, is so highly regarded. The words of a master in the art of persuasion may prove that men, in

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the mass, are not, as a general rule, led to choose and act through their reasoning powers exclusively, but through their sensibilities and imaginations, and that no public orator, no one who addresses large assemblies, no preacher above all, may safely neglect this. Still we are not saying by this that preachers, especially those who do not have Mr. Beecher's sense of representation and comparison, should desert the logical for the analogi cal form; for every man should, as Mr. Beecher says "work on his best side." The preacher should also, we think, bring up his weak side whatever it may be, else he will run the risk of emptying his seats by bare logic, or of enfeebling the understanding of his hearers by picture-drawing. Mr. Beecher's style belongs purely to himself alone; it is not imitable as the best points of a man of genius are not; and while it is full of charm and power, it is a direct defiance of classic eloquence, and belongs to the more lawless realistic school. His delivery also is not Demosthenean, not the majestic delivery of art, but while noble, it is irregular, explosive, mimetic, full of fiery and continuous movement, allowing little repose of mind or body. Whether he should be followed here would be a matter fairly open to discussion; but wnether a perfect model or no, the freshness and freedom of his style, his contempt of mannerism, aud the living nature, pliancy and beauty of his thought as well as its knotty strength, are worthy of study by those who aspire to his power.

The remaining lectures on the "Relations of Health to the Preacher's Life and Function," on "Love as the Central Principle in Preaching" and on the "Composition, of the Sermon" although packed with shrewd suggestions and vivid thought, we must pass over in this notice which is not the time or place for discussing homiletical principles, and which is intended only to express the impression made by these stimulating and remarkable lectures.

We cannot however omit one excellent suggestion, that the sermon, whether written or unwritten, should be the fruit of good general preparation. There must be work where there is power. No true inspiration is begot in ignorance. Yet every sermon should leave room for the imagination of the hearers to play; it should not surfeit them with instruction; it should not be made too perfect; people should not be treated like sacks of corn to be filled as from a funnel.

While there were some things in these lectures with which, on the very ground-plan and philosophy of preaching, we should not altogether agree, and some things left rough and unrounded that might with much profit have been completed, yet we know of no man living who could have said so much on this great subject in the same space of time, or so powerfully, pregnantly, convincingly. It was a wonderful and generous exhibition of his own method of working, leaving the impression that his whole being was in this work of preaching and that he believed in it, that he thought it the most powerful instrumentality in the world, that he would pit it against all the sceptical opposition that could arise, that Love was its central force driving its wheels, and that he like his Master, would be willing to give himself, and did give himself daily for others—that the most loathsome wretch on earth was not outside of his warm sympathy.

It was indeed, as Mr. Beecher himself hinted, like General Sherman going to West Point, and, in a familiar but clear way, with a subtle method and plan of his own, laying before the military school there, the secrets of his marvelous tactics, the principles, or rather intuitions that guided him in his campaign, and made predeterminedly sure and successful his "march to the sea." This was the *raison d'être* of the lectures — to bring in a great and successful soldier of Christ, and let him tell us how he accomplished his achievements in the field of the present, so that those who are just going into that field may be instructed. It would be well if the other departments of the Theological school, and might we not even say of the whole college, were in the same way supplemented by lecturers from without of wide experience and varying views. We welcome any addition to the educational forces of the university, which should be a centre of light in the land, a sun among the other schools and colleges, not only emanating light, but drawing all vivific influences into itself, to pour them forth upon the land.

We have gained new conceptions of Mr. Beecher's power and versatility in listening to these lectures, and at the same time have become convinced from his own statements that this power is not all the easy fruitage of a vigorous native genius, but also the product of a great deal of hard work. We believe that there are fewer harder students in the land than Mr. Beecher, and we have no doubt that he has an honorable pride in letting this be known; and he would have young men know that honest work (we must say on an uncommonly good soil) is at the bottom of what he is and does.

Mr. Beecher is a great popular preacher; there is his glory and one of the prime secrets of his power. He is loved by the people. He strikes on the democratic chord; and does not the New Testament also? If there is an exclusive, selfish, fastidious, or falsely aristocratic sentiment, a nursing of the caste-principle, a pride of wealth, a scholastic or ecclesiastical sanctimoniousness, it must have received pretty rude shocks and buffets; but that refinement is still a good fashion, and cultivated intellect and heart are still worthy of special honor, no man, we presume, would be more quick to allow than Mr. Beecher. Since he has formally constituted us his Father-confessor—a great honor and responsibility—we call upon him to confess his sins; and one of them is, that he should seem to take it for granted that all preachers can pursue his methods who have not his gifts. We grant that most ministers can learn from his methods, can modify and enrich their own efforts by the sagacious suggestions of his robust common-sense, but they cannot attempt to do all that he does, nor depend for success on all the means he employs. God uses different instruments for different ends, and if Mr. Beecher has been inspired for his work with "the enthusiasm of humanity," and has been made to love man as his intensest passion—if he has been filled with human instincts, affections, and sympathies, charged like a Leyden jar with human magnetism, another man who looks more instinctively Godward, and has the faith-power to draw into himself all higher spiritual influences, so that he shines before men in the light of Christ, he must also do what God has designed him to do—to shine. He must not love God less, but men more. Another sin of Mr. Beecher's, which we hope he will take seriously to heart is, that whatever he may say or do, he is so sure to be liked (we might say loved) and his spirit is so genial withal, and his wit so overpoweringly bright and his speech so persuasive, that he thus has the power of saying bad things if he will and nobody can contradict them, or, we would put it stronger still, help believing them. But the rest of Mr. Beecher's faults we reserve for the secrecy of the private confessional.

The few closing words of these lectures—which we hope will soon appear in print for the instruction and delectation of all the schools of the prophets and all ministers of the gospel in the land—were inexpressibly graceful and affectionate, and will linger like the last entrancing melody of a noble oratorio dying away in the tender silence of the heart, long in the memories of those to whom they were addressed.

THE ALUMNI MEMBERS OF THE CORPORATION.

To the Editors of the College Courant:—As the time approaches for the vote to be taken upon the selection and admission of the Lay Fellows into the Corporation of Yale College, it is a matter of some surprise that so little has been publicly said or written upon the principles which are to govern the choice of the voting alumni. The change in the Corporation is of course to be made, but the character of that change except its name seems to have attracted little discussion.

We of the alumni, who watch with interest the progress of the college, and who are especially delighted at its late development, hope that an element of real worth will be added to the constitution of the university by the adoption of alumni representation. We are to be allowed to replace the present silent members of the corporation by an equal number from among ourselves. If now the change is to be of any value it will be because the alumni to be elected are to be active instead of silent members, and because they are to constitute a fresh energetic, and in a certain sense wordly element hitherto unrepresented. The advisability of the admission of some young vigorous outside life into the government of the college seems on almost all sides to be conceded. That result can of course be reached by a judicious choice of alumni representatives, and on the other hand, it can completely fail of accomplishment by want of judgment in the selection of candidates.

There are two tendencies which will, it seems, be especially fatal to the reality of the proposed reform. The first tendency will be to elect merely great names to the vacant positions; men who have won high repute in the world, and who have honored Yale by their great success, but who have neither the time nor the will to be of continual service to the college; men whose eminence would be of high importance as an advertisement of a weak college, but of comparatively little moment to the ancient name of Yale, and who, if elected, would be likely to lend but little real aid or personal counsel to the college. All that would be effected by such an election would probably be certain changes of name in the annual catalogue, Senator Smith and Brown, giving place to the Honorable Jones, or the Right Reverend Robinson.

We should not indeed entirely ignore in our choiee the well won honors of talent and industry, but we should hesitate to vote for illustrious names, whose positions and engagements preclude the possibility of real efficiency and constant usefulness to the university. Our candidates should be men who can, and will devote their energies to their new duties, and who will continually and faithfully represent the views of their constituents.

The second tendency seems to be to apportion the candidates to different sections of the country, one vacancy being filled by an Eastern man, another by a New Yorker, a third by a Philadelphian, and others by representatives from Chicago, St. Louis, and the South. Such a disposition of the positions, it is said, is one which graduates from the separate divisions of the nation will demand as their due, and that it will be advisable in order to keep alive the interest of the Western and Southern alumni.

In this connection the plan of nominations by the Alumni Associations of Boston, New York, Chicago, St. Louis and elsewhere, has been broached. Now this theory, though obviously a fair one, and within certain limits proper, leaves out of sight the true object of the projected reform. What we want to secure is not the idle honor of candidates of our own selection in the body of fellows in the place of the arbitrarily appointed Senator, but it is the official connection with the college of an active and vigorous body of men, fresh from contact with the world, and alive to our own and the popular sympathies and demands. All real interest in the college is to be stimulated by what the college does for the cause of education and not by the mere occupancy of a fellowship by A.B., or C.D. For such representatives as we desire, to exercise any real united influence upon the corporation, they must be within easy reach of each other and of the college. Wise letters may indeed be written between distant associates, but it is only by personal contact and comparison that the truest results of coöperation can be accomplished.

It is hoped that under the newly constituted corporation the governing body will have frequent meetings and thorough personal discussion of all honest and practical systems and reforms. This will be impossible if the members are habitually separated by days of travel. The inconvenience of attendance will soon generate

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supineness in duty, and result in an inert element in the corporation not differing from the present, except in name. These requisites therefore, seem proper to be kept in the minds of the electors.

If we want a genuine reform in the constitution of the corporation, and a living representation of the graduates in that body, we must choose fresh men, who have not only the capacity for the position, but the time and the will to fill it. We do not need men of great learning as our representatives; that element already exists in the corporation, nor do we want noisy agitators, or professional reformers; but we do desire men of executive ability, enthusiasm and hearty sympathy with our own spirit, and the healthy popular tastes.

Secondly, we want men whose residences are such that they can give, without grudging, their personal attention to their duties.

Let our distant alumni waive their preferences for some honored townsman, in favor of some more accessible and therefore more real representative. It is by attention to such considerations as these that alumni representation is to be a living, useful power. We do not seek it for its name, but for itself, and if we do so in a true spirit, we shall guide our choice of its exponents, not by local preferences, or by the mere attraction of titles, but by a determination to secure to ourselves its effective reality. B.

COLLEGIATE AND PROFESSIONAL.

THE SEMI-ANNUAL EXHIBITION OF THE STUDENTS OF COLUMBIA COLLEGE—THE COMMENCEMENT EXERCISES OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

The semi-annual exhibition of the students of Columbia College, or the "Students' Semi-Annual" as it is popularly called, took place at the Academy of Music, on last Monday evening. There was present a large audience, composed of both sexes, with, obviously, a preponderance of the kind that do not vote. The majority were of such as are especially interested in the welfare of the College, and in the prosperity and progress of the students, though doubtless some were attracted by a laudable curiosity. Several distinguished gentlemen occupied seats on the stage, conspicuous among whom were the President of the College, Professor Short, Professor Nairne, and Dr Ormiston. The music of the evening was furnished by Grafulla's full band. It was under the direction of Grafulla himself, and consisted of selections from Verdi, Wagner, Strauss Rossini and Bellini.

The exhibition was presided over by H. Duncan Wood, who made the opening address of welcome to the friends and patrons of the College. His remarks were pleasing and appropriate, and apparently well received and appreciated. The following was the order of exercises: "Has It Paid?" W. H. Haldine; "Mediæval Church Architecture" C. C. Edgerton; "College," S. G. Ashmore; Oration, R. H. Wilkinson; "Chivalry," Louis F. Lacy; "Education and Happiness," Henry G. McKenzie; "Progress of Science," William Babcock, Jr.; "The Drama," H. C. Demille; Philolexian oration, Sutherland Tenny; Perthologian oration, Edmund McCaffil.

It would not be proper to make any invidious distinction where all did so well, yet it may be remarked that the address of Mr. Ashmore won special favor by clearly defining the true objects of a collegiate education, and explaining what properly constitutes a university. He vigorously defended Columbia College against the very serious charge of having lowered the traditional high standard of scholarship, in order that certain inefficient or incapacitated persons, the sons of men in affluence, might be honored with diplomas. He also vindicated the College against the charge of habitually granting peculiar privileges to the exceptional class above mentioned. It was generally conceded that these charges were triumphantly refuted.

The address of Mr. Haldine, which dealt with the doings of the "Tammany Ring," is also worthy of special mention. It was certainly very excellent of the kind, being both witty and satirical. It evoked frequent bursts of applause, and occasioned much hearty laughter. Of course it added immensely to the interest of the exhibition, in the estimation of such as delight in merriment. On the other hand, there were present some who do not approve, even on such occasions, of the selection of topics that have no kind of connection with the pursuits in which the students are immediately interested. Yet it may be said in favor of the choice, that subjects which pertain to issues of the period, whether of one sort or another, invariably interest the audience, whether or not they sympathise with the views presented.

The exercises were of a very interesting character, and well worthy the close attention of the auditory. Yet it must be said, in deference to the truth, that there was throughout the evening a great deal of unnecessary conversation. This is too frequently the case at such exhibitions, but I do not remember to have attended one in a long time, where it was so freely indulged. The effect was sometimes very ludicrous, as when the noise was loudest the young orator on the stage appeared to be going through a series of elaborate dumb motions, not one word he uttered being audible above the loud buzz of the general conversation.

On the Wednesday evening following, the sixty-ninth annual Commencement of the College of Physicians and Surgeons took place in Steinway Hall. A brillant and crowded audience were in attendance, "the fair sex," as at the Student's Semi-Annual, being a decided majority. Very many distinguished persons were present, and among those on the platform were Dr. Willard Parker, Dr. Edward Delafield, Dr. McLean, J. C. Dalton, T. G. Thomas, E. Clarke, Gurdon Beck, H. B. Sands, F. M. Merkoc, Rev. Henry Ward Beecher, and Rev. Dr. Hutton. The exercises were opened with prayer by the gentleman last named.

The graduating class was large, numbering seventy-seven, all of whom were of "the sterner sex." Most of them were young, though here and there might be seen a heaving flowing beard, or a shock-head of a "salt and pepper color," indicating a higher degree of maturity. "The old fogys," as these were termed by their adolescent associates, were however, with two or three exceptions, physicians of more or less experience in the practice of medicine and surgery, who had matriculated themselves, in part of course, for the valuable instruction imparted, but as well for the sake of a degree from a college of such celebrity. The degrees were conferred by Dr. Delafield, in the alphabetical order of the names of the recipients.

After the diplomas were ceremoniously bestowed, the prizes were distributed and the names of the successful competitors announced. There were four prizes, and for each a goodly number of contestants. The first two were the Faculty Prizes, one of fifty dollars, which was won by William T. Bull, of Rhode Island, and the other of twenty five dollars, which was bestowed upon Peter A. E. Boetzkes, of New York. Of the other competitors for these prizes, honorable mention was made of the following:—Edward E. Henshall, New York; Geo. A. Gage, Alabama; T. Naylor Bradford, Newark, New Jersey; C. T. Trowe, Massachusetts. The Atis Prize, which was a case of surgical instruments, was awarded to T. W. Chapin. The Alumni Association Prize, the most valuable, being four hundred dollars for the best essay on Experimental Vaccination, was received by Dr. Frank E. Foster, of the class of 1862.

The address to the graduates, was delivered by the ubiquitous Beecher, whom the people of Brooklyn claim as a clergyman, and Yale Theological Seminary as a professor. It was characterized, as all his efforts are, by marked ability, and was appropriately full of sage advice, which, if conscientiously followed by his special auditory, will make them good and useful men, as well as accomplished physicians. It would be impossible at the tail of a long letter to do any sort of justice to his address, which should be reported in full to be properly appreciated. Yet there were a few of his remarks which will bear repeating, for the valuable advice they contain, even though they appear in a garb less gorgeous than that in which he ordinarily clothes his ideas.

He counselled the class not to be discouraged if they met with disappointment and drawbacks at the opening of their careers, and assured them that, if they worked faithfully, and with a determination not to let their lives be a failure, success would surely crown their efforts. He warned them, however, not to work alone for success and eminence in their profession and for their pecuniary aggrandizement, though they should have some ambition for eminence, and a prudent idea regarding a competence for old age. He predicted that there would soon be a great change in the medical, as also in the legal and clerical professions, as the working and laboring classes were becoming daily enlightened.

In illustration of this last idea, he said that clergymen were not now asked, by the members of their congregations, one-tenth the questions which were propounded to them twenty years ago, the people now deciding these questions for themselves. He knew men who were their own lawyers and some who were their own doctors in simple cases, and argued that it showed the great necessity for professional men to be now more cultivated and familiar with the highest and most difficult branches of their professions, as it is on these only that they will soon be consulted. He concluded by saying that every doctor should be a half clergyman, and every clergyman a half doctor, and when at the bed of sickness each should act the double character.

The valedictorian was Dr. Samuel Swift, Ph.B., of New York. His address was of the customary character, but both in substance and delivery highly creditable to the orator, and to the class, and to the College.

New York, March 2, 1872. T.

THE UNIVERSITY OF VALENCIA.

The following interesting letter from Professor W. L. Montague we find in the columns of the *Amherst Student* of February 24th:

Among the eleven Universities of Spain, that of Valencia ranks the fourth. It has until recently been considered the equal of those in Barcelona and Seville, but since the revolution the government has withdrawn some of its privileges so that now it can confer no higher degree than that of M.A., except in the Faculties of Law and Medicine, where it still confers the degrees of Licentiate and Doctor. Compared with the University of Salamanca, in the days of Don Quxiote, when more than ten thousand students thronged its halls, the University of Valencia is small, but compared with many of the universities in America it is one of the first in importance. The number of students connected with it, in all departments, during the past year was 1,890. The number of professors is about forty.

The course of study is somewhat different from that in the American college. It comprehends a part of that embraced in our college course, together with that of the professional schools. Candidates for admission must be 16 years of age, and must have passed through the schools of primary and secondary instruction. The primary instruction corresponds very nearly to that given in the common schools of America. The secondary instruction is given in the Institute, and embraces nearly all the subjects taught in our high schools, academies, scientific and polytechnic schools and colleges, excepting the ancient languages. Greek is not included in the studies of the Institute, (nor in those of the University), though instruction in that language is given when desired; but Latin is taught during two years. At the end of this course the student receives the degree of B.A., and is prepared to enter the University. Here he is conducted, as the Rector says, "to the foot of the temple of knowledge, and taught the science of man, and to know in all its infinite manifestations the adorable and supreme wisdom of God."

The University embraces four Faculties; of Law, Medicine, Science, and Philosophy and Letters; besides those which have been recently added, of the Notary, Pharmacy, Agriculture, Veterinary Surgery and the Fine Arts.

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The complete course of study is designed to occupy seven years; three years for the degree of M.A., three for that of Licentiate, (Licenciada), and one more for that of Doctor. This course of study still remains fixed, but the time in which it may be completed, is according to the will and ability of the student. He may shorten it to four or five or prolong it to ten or twelve years.

Instruction is given both by lectures and by text books, but the daily attendance is optional, the student's attainments being determined by the examinations, which are both oral and written. Of these a record is kept, which forms the basis upon which honors are conferred. That these examinations are quite rigid, is shown by the fact that, at the end of the past year, 24 of every 100 presenting themselves for examination failed to pass, and were "suspended" to pursue the same studies another year; or until the next examination, which occurs in February. The principal examination is in June, and those who are especially successful, are allowed to apply for examination upon the studies of the following year in February, and thus shorten the time spent in the University. The expense to the student is, for tuition, $12, for the studies of each year, which is paid to the government, and $2, for each examination, which is paid to the professor who conducts it. This tuition is the same whether the studies are completed in six months, or in six years. In addition to these fees for examinations the professors receive a fixed salary from the government varying according to age and ability, from $600 to $1500. The expense of board and lodging is considerably less than at Amherst, since provisions are cheap, and rent is about one fourth of that which is paid there.

Attendance upon all the exercises is voluntary, yet good order seems to be maintained with very strict discipline. We have passed the University daily for several weeks and have been much impressed with the quiet which is always observed. Although hundreds of students are in the court, or passing from their recitations, there is no more noise than would be occasioned by any congregation of equal number leaving a church on Sunday in New England. Any "impropriety of conduct," disorder in the class-room, or about the University is marked with a demerit, varying from one to fifteen, according to the nature of the offense, and whenever the number reaches fifteen, the student's connection with the University is terminated for that year. Last month the students wished to have the vacation commence on the 8th instead of the 15th. As the desire was not gratified, a disturbance arose which increased to such a degree that the Rector was obliged to go out to restore order. His words were for a time disregarded, and in the struggle one of the porters was scratched so that blood was seen upon his face. When the riot ceased, the professors were called together, a court of investigation was instituted, a trial held, and the one who drew the blood was "expelled." The doors of every University in Spain are "forever" closed against him. In addition to this he was passed over to the Civil Court and is now in prison. Two others were suspended, one for two years, and the other for one year, and several received a public reprimand.

There are no dormitories connected with the University, and all the lecture-rooms, cabinets, etc., including the chapel, public hall and library, are comprised in one immense building in the form of a parallelogram inclosing a large open area or court.

The cabinets of Geology and Mineralogy seemed quite inferior to those in Amherst College, but the collection of birds was particularly fine and extensive. In the department of Anatomy we were especially interested in the complete skeleton of an enormous whale. The vertebræ were fifty in number, the largest 18 or 20 inches in thickness, and the entire length was about 75 feet. The creature had somehow wandered into the Mediterranean Sea, and being unable to find his way out was captured near Valencia.

From the Cabinets we pass to the Library, which contains 46,579 volumes. Of this number, 646 were added the past year by gift, with one exception, as there is no fund with which to make additions by purchase. The number of readers during the year was 8,216, consulting 9,887 volumes. Theology 144, Jurisprudence 1370, Science and Arts 5,477, Belles Lettres 838, History 1,834, Encyclopædias, Reviews and Periodicals 225.

Valencia is noted as the place where the first printing press was established in Spain, and in the Library we were shown the first book printed on that press. We were also shown the Bible of St. Vincent, an elegantly bound volume of the 13th century. It was all written with a pen, but so distinctly and perfectly are the letters formed, that the work would scarcely be distinguished from a printed volume of a date more than two centuries later. Among other curiosities shown to us was the work on chivalry, which turned the head of Don Quixote, also a magnificent copy of Virgil printed in 1490, and a very valuable book of which there are but two other copies in the world, one in Rome, and the other in the British Museum. This Library has also a fine collection of coins and illuminated manuscripts, and is rich in works of chivalry, in aditions of the 15th century, in Bibles, and works of the early fathers of the church.

With a few words about the location of this University I must close this already long letter. It is in a beautiful city of 106,000 inhabitants, the capital of the province of the same name. It is one of the most enterprising cities in Spain, with a port of considerable commerce, having sent this season ten steamers laden with oranges and figs, to New York and Boston. It has extensive manufactories of silk and velvet, and printing establishments, which, next to those in Madrid, produce the greatest number of books in Spain. It is surrounded by a fertile plain three leagues in diameter called the "*Huerta*" or large orchard, which has been considered by some "the most beautiful garden in the whole world." Though but little rain falls here, 2 or 3 inches annually, the soil is made to produce four or five crops in the year by a system of irrigation through a multitude of canals and rills, which are said to remain and look the same as when the Moors first constructed them eight centuries ago. Here figs, olives, oranges, palm trees, and almost all kinds of grain and fruits grow in wonderful luxuriance. Oranges can be bought at ten cents a bushel, and we have bought excellent figs at three and one-half cents a pound. The climate is quite agreeable now, while the extreme heat of summer is tempered by the sea breeze, which uniformly refreshes the air during the middle of the day. Frosts occur but seldom and snow is scarcely seen once in 20 years. The sun has shone brightly for fifteen successive days, and we have been able to take our daily walk in beautiful gardens, among orange trees, loaded with luscious fruit, along avenues bordered with roses, narcissus, and English violets, and various other plants, shrubs, and trees in full bloom.

All this is beautiful, but beauty alone cannot satisfy the soul. It craves truth and goodness and to a sad extent these are both wanting here. There is no New England Sabbath with its hallowed hours of rest and worship, and on those days, which here are holidays, we especially miss our Amherst home with all its sacred privileges, and in our loneliness we offer our fervent prayer that God will bless Amherst College and will make it more and more a blessing to our native land and to the world. W. L. M.

THE OXFORD AND CAMBRIDGE CREWS.

The following in reference to the crews of the two English Universities, who are to contend in the coming race, is reprinted from the London *Standard* of Friday, February 9th.

On Wednesday some important doings took place on the Cam, and for the first time this term two picked eights were tried. The afternoon was like a balmy one in Spring—not a breath of air to ripple the stream—and the late rains had filled the river sufficiently to give plenty of water, with a decent current. This is a more important matter than people imagine. In the first place, the absence of wind gives the ship a fair chance of riding on an even keel, and also enables the coxswain to detect which side is the strongest. Coming up the long reach the second time we noticed that the rudder, strings were not touched, and this augurs well for fair time and evenly balanced power. Mr. J. G. Chambers, an old Blue, took down the duffer eight from the boat-house to the railway bridge, and their steady rowing and even swim would have impressed any outsider with the picked 'Varsity. Soon after the eight proper came down with a light coxswain, and after easing at the bridge, Mr. Chambers rode with them, vice Mr. Lowe, to Baltsbite a large crowd trotting on foot, intent on ferreting out what was in the wind. At locks Mr. Chambers steered them up again to the bridge, and after a change of Randolph to seven, French moving back to three, Robinson and Benson coming two and bow, vice A. Phelps and Malden, they had a short spin down the reach to Bitton, and then a pull home, the men rowing in the order below. So much for the doings of the day. The boat may now be considered settled, with the exception, perhaps, of a change in the bow, should either Lomax of Follet adopt the motto of "*Dulce el decorum est pro*," &c.

The Oxonians seem rather at a loss for a Mentor. Mr. Willan, a thorough sound oarsman and judge, paid a flying visit to the Isis on Monday and coached from the bank and stern; but it was only a flying visit, as the imperious demands of the bar summoned him away again, and he will scarcely be able to take the crew in hand. Mr. Woodgate, one of the best coaches for rough men living, may turn up, but not regularly. Mr. George Morrison has abandoned the river, but surely out of the host of old dark blue oarsmen, W., W., W., and others, there ought to be no difficulty in having the crew well looked after. It is important that Lesley should keep his place and not coach, and still more important that some one should break the others in his style, as Malan is the only other old man rowing; bow, two, seven, and stroke are tough and strong, and this settles the two ends of the boat, but the work of coaching will fall on the middle men, who are not used to each other's backs or styles. It is positively settled that Moss will not row, a great loss at this juncture, and Giles may also be an absentee. There is a fear that the hard work that will fall upon Lesley, in getting so many novices to follow his style, may react upon himself and spoil his own form. He is the mainstay of the crew and well backed up by his colleague seven. By careful practice he may turn out a crack lot, but this year more than ever will success depend on coaching. The journeys during the floods have been the usual ones to Iffley, but in a few days they will be longer, and in a few week's time it will be seen whether the new places are permanent or not. The names and weights of the present crews are:—

OXFORD CREW.

	St.	*Lbs.*
1—J. A. Ormsby, Lincoln	11	2
2—F. E. Armitstead, Exeter	11	3½
3—H. Awdry, New	11	11
4—A. W. Nicholson, Magdalen	12	4
5—E. C. Malan, Worcester	13	13
6—C. Black, New	12	1
7—R. S. Mitchison, Pembroke	12	9
8—R. Lesley, Pembroke	12	2½

CAMBRIDGE CREW.

1—C. W. Benson, Third Trinity	11	7
2—G. M. Robinson, Christ's	12	2
3—J. R. French, Emmanuel	11	7
4—E. A. A. Spencer, Second Trinity	12	3
5—C. S. Read, First Trinity	12	6
6—J. B. Close, First Trinity	11	12
7—E. S. L. Randolph, Third Trinity	11	10
8—J. H. D. Goldie, Lady Margaret	12	4½
Cox, C. H. Roberts, Jesus	6	8

Both presidents are agreed as to the day of the race. Saturday, March 23. A midday tide will suit the holiday seekers, and parsons will be able to return home and regain composure for the morrow.

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SCIENTIFIC.

The Meteorology of February, 1872.—The mean temperature of the month of February at New Haven was 28 degrees, which is only one-tenth of a degree below the average temperature of the month. The highest temperature of the month was 50·8 degrees on the 24th; the lowest was 6·7 degrees on the 23rd. The range of the thermometer for the month was 44·1 degrees, which is six degrees less than the average range. It is remarkable that the highest temperature of the month occurred on the next day after the lowest temperature. It is not uncommon for a very low temperature to follow rapidly after a very high temperature; but a rise of 44 degrees in 30 hours is quite unusual. The mean temperature of the past three months has been 1 degree below the temperature of these months for the past ninety years.

The amount of rain and melted snow for the past month was 1·85 inches, which is less than half the average fall. The amount of snow for the last three months has been 27 inches. E. L.

Yale College, March 1, 1872.

Preserving Fruit and Flowers with Paraffin.—Paraffin is an article of commerce obtained by the distillation of petroleum. In form it resembles spermaceti, and is a tasteless, inodorous, waxy matter fusible at 112° and nearly transparent when applied to many substances. Dr. Piesse has recommended preserving flowers and fruits by simply dipping them into paraffin and withdrawing them quickly, when a thin coat of the paraffin instantly sets, and closes all the pores of the article thus treated. In order to be successful, the flowers should be freshly gathered, perfectly dry and free from dew or moisture. The paraffin should not be hotter than just sufficient to liquefy it; and the flowers should be dipped into it separately, holding them by the stalks, and moving them about in order to get rid of bubbles of air which are likely to get imprisoned within the corollæ. Those parts of plants or flowers which are not required to be preserved, should be removed with scissors previous to dipping them in the paraffin. Fruit should be dipped in as it is held by the stem.—*Industrial Monthly.*

Madder.—The total growth of this plant is calculated to amount to 45000 tons, having a value of £2,150,000. The coloring principle, which gives various tints in dyeing, according to the mordant used, is now known as alizarin. It has been produced artificially by Graebe and Liebermann of Berlin, from anthracene, one of the solid hydrocarbons existing in coal tar. Their process was much to costly to be carried out successfully; but the fact was immediately acted on by Perkin who, the pioneer of the entire industry of the coal-tar colors in 1866, has again, in the case of madder, turned what was merely a curiosity of science, into a glorious commercial success. There remains, however, one most serious drawback yet to be overcome, and to that we would now direct attention; it is, that at present the colors must be manufactured from anthracene, which is a comparatively scarce body; since 2000 tons of coal yield but one ton of anthracene. If some of the other coal products, naphthalin for instance, could be converted into anthracene, then the artificial production of alizarin will attain the commercial importance which is certainly in store for it.—*Ex.*

The Approaching Transit of Venus.—In an interesting paper "On the Velocity of Light and the Sun's Distance," by Professor Lovering of Harvard College, published in 1863 in the *American Journal of Science*, the various methods are discussed by which the distance of the sun may be computed, and the results, as obtained by these methods in the hands of the best astronomers, are given. These methods are four in number: (1) observations on the transit of the planet Venus; (2) on Mars when in opposition; (3) on the Moon; and (4) on the velocity of light. The first method was proposed by the celebrated astronomer Halley, and was made use of in 1761 and 1769 by Encke, who deduced therefrom a solar parallax of 8″.57 and hence a solar distance of 95,360,000 miles. The most recent result of the second method is that of Dr. B. A. Gould who calculated the solar parallax—from data obtained by the U. S. Naval Astronomical expedition to Chili, under Lieut. J. M. Gilliss—at 8″.50; this gives the sun's distance as 96,160,000 miles. The third method gives distances varying from 94,915,970 miles—in the hands of Laplace—to 91,066,350 miles as calculated by Leverrier. By the fourth method, Foucault computed the sun's distance to be 92,087,342 miles, and Fizeau, 95,117,000 miles. It appears therefore that "the three astronomical methods present solar distances which, even if we select the most trustworthy decision of each, differ by three or four millions of miles; that is, by three or four per cent of the whole quantity. This result is surprising indeed to those who have been taught to believe in the *accuracy* of astronomical measurements. It is the more to be regretted inasmuch as the solar distance is the measuring line by which the celestial spaces are estimated; and an error of three per cent. here, makes a difference in the distance of the nearest fixed star of 600,000 millions of miles!

From these facts, as given by Professor Lovering, the exceeding importance to astronomical science of recalculating the solar parallax from new and more accurate observations, is plainly apparent. Of the four methods given above, the first is the most reliable. But the almost fatal objection lies against it, that transits of Venus are so rare a phenomenon that they are hardly available. No transit of Venus across the solar disk has taken place since 1769; nor will another, equally favorable for the purpose, take place for centuries to come. True, transits will occur in 1874 and 1882; but Encke declares that both "will be so unfavorable that nothing short of perfection in the construction of instruments and in the art of observing, can compensate for the natural disadvantage; so that the reduction of the possible error in the sun's parallax within the limit of one one-hundredth of a second is hopeless for at least two centuries more." Notwithstanding this discouraging opinion of the great astronomer, such is the importance of the result to be attained, and such the confidence of astronomers in their improved instruments and methods—so fully justified by the recent refined results of spectroscopic research—that extensive preparations are in progress by most of the civilized governments of Europe for fitting out expeditions to accurately observe the transit of December 8th, 1874. In this movement, England took the lead. The Astronomer Royal, Professor Airy, called attention to these transits first in 1857 and again in 1864. And in 1868, definite plans were begun, stations were selected, and the government consulted in regard to the necessary funds. A recent number of *Nature* contains an account of these preparations. The measurement to be made is the parallactic displacement of Venus upon the sun's disk, by simultaneous observations at different and opposite points on the earth's surface. This measurement may be made in four ways: (1) by observing the duration of the transit (the original method of Halley); (2) by noting the absolute local times of ingress and egress (Delisle's method); (3) by heliometric measures of the planet referred to the limbs of the sun; and (4) by similar measures obtained from photographs of the sun with the planet on his disk. The first of these is disadvantageous in this transit, and the third and fourth are yet to be tested. The second therefore, is the one to be especially provided for. Five stations were selected as suitable for the measurements: Oahu for accelerated ingress, Kerguelen's and Rodriguez Islands for retarded ingress, Auckland in New Zealand for accelerated egress, and Alexandria for retarded egress. Since the absolute local time at all these places is required, a sojourn of three or four months by the observing party is necessary, in order accurately to determine the longitude. For this purpose the Astronomer Royal decided to use the method by vertical transits of the moon, employing altitude instruments with fourteen inch circles and telescopes of twenty inch focus. For time determinations, transits of 3 inches aperture and 36 inch focus were required, to be used with clocks of moderately high class. The transit of Venus was to be observed with a 6 inch equatorial and a four inch portable telescope. For these instruments an observatory of three rooms was needed. The estimate for the purchase of instruments was £2250, and for the expenses of the expeditions £8250, making a total of £10,500. This sum was asked of the Treasury in 1869 and at once granted. Work was thereupon commenced upon the instruments by Troughton & Simms and the Messrs. Dent; the observatories were also contracted for. So that at present all the necessary *materiel* is in a good state of forwardness. In the estimates thus far made, photography had been left out of account. But a growing sense of its importance led to the appointment of Warren De la Rue as head of the photographic corps, and to a further appropriation of £5000 by the Government. Extended researches are now in progress upon the causes of error likely to occur; and it is confidently believed that photographic measurements can be made to 0″.12 of arc or to $\frac{1}{14000}$ of the sun's diameter; indeed Mr. De la Rue believes to the $\frac{1}{18000}$ of this diameter.

Other European nations have not been behind England in this matter. The German astronomer referred it to a Committee consisting of Hansen, president, and of Argelander, Paschen, Bruhns, Förster, Auwers, and Winnecke. The first meeting of this committee was convoked by Chancellor Bismarck and met Oct. 25, 1869. They invited Professors Dove of Berlin (meteorology) and Zöllner of Leipsic (spectroscopy) to join them, and extended an invitation to Otto Struve, Director of the Pulkowa observatory. They urge heliometric observations for fixing the relative position of Venus on the Sun's disk at the different stations, and propose the use of 6 feet equatorials of 52 lines aperture. The use of photography and spectroscopy was discussed and referred to a special Committee. Four expeditions were proposed, two to the north and two to the south. The most favorable stations suggested were Nertschinsk, Hakodadi, Kerguelen, Edward's, Crozet's and Auckland Islands, and Mauritius. Three of these, with a fourth in Persia, between Mascate and Teheran, will be equipped for photographic observations. France just previous to the war, appointed a commission, consisting of Admiral Paris, MM. Faye, Laugier, Villarceau and Puiseux, who reported to the Bureau des Longitudes that it would be desirable to provide French observing stations at Saint Paul's Islands, at Amsterdam, Yokohama, Tahiti, Noumea, Mascate, and Suez. Since the war closed, the Academy of Sciences has applied to the Government for the necessary funds; but the budget for 1872 having been disposed of, their request could not be granted till next year. Russia seems particularly favored, since her own territory presents many points very favorable for observing the phenomenon. And for two years past, a Committee, organized by the Director of the Imperial Observatory at Pulkowa, Professor Struve, has had under consideration the establishment of a chain of observers at positions 100 miles apart, along the region comprised between Kamschatka and the Black Sea.

Our own Government alone, has taken no active steps towards cooperating in this most important determination. Professor Asaph Hall of the U. S. Naval Observatory, in a note published in the *American Journal of Science* in April last, urges united and harmonious action among American astronomers, so that their observations at the various stations shall be made with similar instruments and in accordance with a preconcerted plan. And Professor Young in his recent lecture expressed the hope that the United States would not be behind the nations of Europe in this movement. We have yet to see any concerted action taken, however, even by our astronomers. So that the measure of praise this country has received for its energy in recent eclipse expeditions seems likely to be more than cancelled by a possible failure in providing for the coming Transit of Venus, an event of far more practical importance than many eclipses of the sun. B.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, MARCH 9, 1872.

WE commend to the earnest attention of all Yale men the very sensible and candid statements concerning the alumni members of the Corporation which appear in another column of this issue. The several points brought out must, it seems to us, approve themselves to all. They are at least worthy of careful consideration, especially the thought that the new members should reside near enough together to make frequent meetings possible. We invite further discussion of the topic.

THE lectures on "Preaching" by the Rev. Henry Ward Beecher, recently delivered in the Theological Seminary of Yale have excited far greater attention than is common to the courses of either regular or special lecturers in the University. Not only the students of the Seminary for whose benefit they were primarily designed, but also the resident clergy, the students and faculty of other departments of the university, ladies and people generally have shown their interest in the man and his theme by their regular attendance. The comment which the lectures have excited, both from mouth to mouth, and in the public press has likewise been by no means small. What is thought of them in the institution in which they were delivered may be learned perhaps, from the very appreciative and interesting article in another column by the professor in the Seminary whose department corresponds most nearly to the theme of the lectures, Prof. J. M. Hoppin, D.D.

SIR WILLIAM STIRLING MAXWELL, the recently elected rector of Edinburgh University in his installation address, declared himself in favor of medical education for women. He expressed himself as in favor of teaching women everything that they desired to learn, and for opening to them the doors of the highest oral instruction as wide as the doors of book learning. So long as women would minister to their sick children and husbands, he must hear some argument more convincing than he had yet heard why they were to be debarred from learning the scientific grounds of the art of which they were so often the empirical practitioners, or the docile and intelligent instruments. These sentiments from one so high in authority, he being president of the University Court, the highest power in the University, must give renewed encouragement to the women now striving for medical degrees from this institution, and almost seem to prognosticate the final yielding on the part of the University to their requests.

THE University Club recently formed in St. Louis, and composed of the graduates of all colleges and universities, who reside in that city have already held two or three meetings and have a membership of 125. The object of the club as set forth in the preamble to the call, is, that a closer union between the college bred men of the city is desirable, "as well for its own sake, as with a view to concentrated action with reference to a broader and higher culture." No definite plan has been laid out as yet; but it is designed to fit up club rooms for the use of the members. The only qualification for membership is graduation at some college or university and good moral character. The design seems to be an excellent one and we hope for the success of the enterprise. The officers for the ensuing year are as follows: *President*—Hon. Thos. Allen, Union, '42. *Vice-Presidents*—Thos. C. Reynolds, Union, Albert Todd, Yale, '36; Samuel Treat, Harvard, '37; M. M. Pallen, University of Virginia, '31; John B. Johnson, ———, —, Lewis B. Parsons, Yale, '40. *Secretary*—James S. Garland, Harvard, '66. *Treasurer*—M. Dwight Collier, Yale, '66. *Directors*—Edward Wyman, Amherst, '71, Sylvester Waterhouse, Harvard, '42; Jno. W. Noble, Elliot T. Merrick, Dartmouth, '51; Charles H. Goodman, Yale, '67; Thos. Davidson, University of Aberdeen, '60; Joseph S. Fullerton, Miami University, '56; Newton Crane, Wesleyan University, '67; Charles Branch, Washington University, '67.

THE second Educational Convention of the Baptists in this country is to be held in Philadelphia, during the 28th 29th and 30th of May next. The meeting is to be under the auspices of a joint committee from the Philadelphia Pastoral Conference, the Pennsylvania Baptist Education Society, and the Crozier Theological Seminary, and hospitalities will be provided by this committee. The Convention will be composed of delegates appointed by the different academies, colleges and educational associations of the denomination throughout the country. Notice of their appointment should be sent as soon as possible to the Secretary of the American Baptist Educational Commission, Dr. S. S. Cutting, Box 5961, New York city. The exercises of the Convention will consist of the reading of papers and the discussion of educational topics. The opening address will be delivered by the Rev. Barnas Sears, D.D., LL.D., of Staunton, Va., upon—"Institutions of Learning established by Christian Denominations considered with reference to Present and Probable Systems of Public Instruction." Papers not over thirty minutes long will be read and oral discussions will be held upon the following topics:—

1. How, and to what extent, may Colleges, established for the Education of Young Men, and adjusted to that end, be made, by the Teaching which they offer, and by their Apparatus of Instruction, to serve, without damage to that original purpose, in the Education of Young Women?

2. Methods and Uses of Classical Studies—Rev. A. C. Kendrick, D.D., University of Rochester.

3. Education, a Development of Christian Life, the Supplement and Support of all Evangelization, and therefore Due in its Highest Practicable Forms to the Whole Body of the Ministry and the Laity—Rev. S. Talbot, D.D., Denison University.

4. Causes which hinder the Increase of the Ministry—Rev. R. C. Mills, D.D., Salem, Mass.

5, What is a Theological Education?—Rev. George D. B. Pepper, D.D., Crozier Theological Seminary.

6. Methods and Limits of Beneficiary Aid—Prof. H. H. Harris, Richmond College.

7. The Moral Elements of the Teacher's Art—Prof. N. L. Andrews, Madison University.

8. The Library as an Incentive and Aid to Teacher and Pupil.

9. The Relative Claims of our Institutions of Learning on the Public Benefactions of our Churches—Rev. A. Caswell, D.D., LL.D., Brown University.

10. Methods of Religious Instruction and Influence in our Schools.

11. The place of Theological Science in the Sciences comprised in a Liberal Education—Rev. C. H. Toy, D.D., Southern Baptist Theological Seminary, Greenville, S. C.

12. On Limiting the Number of our Institutions by our Power to make them Strong—Rev. T. G. Jones, D.D., Nashville, Tenn.

13. On the Organization of our Educational Work. A Communication from the Educational Commission.

The Convention of last year brought out considerable discussion, and resulted in the dissemination of much educational information. And the character of the questions to be discussed together with the reputations of the men who are to read papers upon them as indicated above, lead us to look with no small interest to the work of the present Convention.

EXPENSES AT YALE.

PERHAPS no question is more earnestly debated, both by fathers who are desirous of giving their sons the advantages of a college education, and by young men more or less dependent upon themselves, and anxious to secure mental training and discipline, than the inquiry, How much does it cost to go through college? And we doubt likewise, whether upon any question, there is among people generally, less definite information. The estimates of the College Catalogues are either entirely unknown or are looked upon as *ex parte* representations, and the statements of the public press are generally so indefinite as to be entirely valueless, or are based upon an extreme case of extravagance, for the sake of giving point to the article, and so convey a wrong impression. And yet no question connected with education is more vital, nor is there one upon which information should be more general. For we are firmly convinced that many worthy young men are prevented from going to college, simply because they or their friends fear that they cannot meet the necessary expenses; whereas, if the real necessary cost was known and the means of assisting one's self well understood, these same young men might enjoy the advantages of thorough courses of study. In this emergency we have determined to set forth a brief account of the necessary expenses at Yale. We confine our remarks in this article to the academical or undergraduate department.

There are two ways by which an answer may be obtained to the question, How much does it cost to go through Yale College? We may either collect the amounts actually spent by the individuals who compose any class and from them deduce the average expenditures of each one, or we may estimate the several items of expense at the prices which prevail in New Haven and from them obtain an aggregate amount. We propose in this article to search for the truth in both of these ways. First, then, How much is actually spent; The statistics of the class of 1870 show that the average expenditures of each member were about $1,066 a year. The statistics of 1871 show a corresponding average of about $1,002. But it is necessary to be said in regard to these statistics, that there is great lack of accuracy in them. In the class of 1871, they were obtained by asking each individual member of the class how much he had spent during his college course and collating the answers. Now as few students keep any account of their actual expenses, there must unavoidably be considerable uncertainty in their estimates. The extremes given in the class of 1871, for yearly expenses, were $250 and $2,500. Four of the class put their expenses at less than $400 per year; three, less than $450: eighteen, at $500 or between that and $450; fifteen at $750 or between that and $500, and the remainder at higher figures. The figures more frequently given than any others, were $500 per year. Dividing the estimates given into four parts we find that about one-fourth of the class did not exceed $500 per year in their expenses; one-fourth spent between $500 and $900; one-fourth, between $900 and $1,250, and one-fourth, between $1,250 and $2,500. Now lest any should be frightened at this *exposé*, we will say, let it be borne in mind that these are student estimates of all that they actually spent during each of the four years they were in college and are not at all an estimate of what is necessary to carry a prudent student through a four years' course of study in New Haven. Many of the students are plentifully supplied with money and spend far more than is at all necessary; and it is obviously unfair to base an assertion in regard to the cost of a college course upon their—in far too many cases—reckless expenditures.

For how much then, may a prudent student study four years in Yale college? For the sake of convenience in estimating, it may be well to divide expenses into two classes, those which pertain to every one personally, and must be met wherever one is; aud those which pertain to the fact of being a student. Under the first head may be classed board, clothes, washing, and incidental personal expenses; under the second, term bills, books, use of furniture, traveling expenses, and miscellaneous extraneous expenses, such as contributions to the boating and ball interest, class pictures, etc.

How much must be allowed for these items?

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Good board can be obtained in New Haven for five dollars a week and at this price for forty weeks, the length of the college year $200, are necessary. The item of clothing is one in which students differ very greatly some spending not more than $50 per year in this direction while others use several hundred in their adornment. We speak, however, from both observation and experience when we say that $100 a year carefully expended will clothe a young man attending college at *Yale*, abundantly and well. For washing $25 is a sufficiency. Incidental personal expenses cannot be estimated. It is in these that students differ most. There are some who use and give away a dollar's worth of cigars every day with other things in proportion; while others, reduce all such expenses to the lowest minimum, and get through the year with less than $25 for incidentals.

In the second class of expenses, the term bills of the College are about $150 per year, and this amount covers tuition, room rent, and the miscellaneous charges of the treasurer's bill. In the matter of books, much depends upon what kind of books are bought whether new or second hand. In either case, if the books are sold when they are no longer required, which is quite commonly done, $15 a year should cover the loss by their use and also furnish the necessary stationary. The similar custom of disposing of the furniture used in the student's room at the end of the course, ought to limit its yearly cost, to $25. Traveling expenses vary of course according to distance and no definite estimate can be put upon them. It is perhaps safe to say that they will not exceed 4 cents per mile for all distances less than one day's travel and 6 cents per mile where regular meals must be procured on the route. It is likewise impossible to set any definite limit to the amount given for various college enterprises, such as ball and boating. Some give nothing and others from $5 to $25 apiece for each enterprise. Class pictures cost from $25 to $100 according to the number taken, but $10 a year or $40 in the aggregate will purchase as many as most students care for.

Taking now the sum of the estimates given above we find it to be a little over $500, which seems to be the amount required to be expended in a single year at Yale. Those, however, who are conversant with student life, will observe that there are several items, either not mentioned or if mentioned, unestimated. One of these is societies, and they have been thus far left out of the account because all students do not go to societies after freshmen year. For this year, from $20 to $50 will be required for this purpose, according to the society joined. And those who go to societies in succeeding years, will need to add from $40 to $100 a year to their estimate of expenses. Another item is board and room rent in vacation. And if the short vacations, as is common with those especially who live far away, are spent in New Haven, four week's board and a few dollars for room rent and fuel, will need to be added to the general estimate above given. With regard to the items mentioned but unestimated, each one who designs to go through college must make calculations for himself, for it is obviously impossible to make any definite estimates of how much any one will spend upon himself for incidentals, or in travelling, or how much he will give in for various college enterprises. The items however, which are estimated we think may be relied upon in every case, as being ample for the purposes named; it of course being understood that the estimates are not made for the poorest nor the richest student, but for one who comes to college to learn, and at the same time, has no money to waste.

This article would be entirely incomplete, and fail of fulfilling the purpose for which it is designed, if it did not contain some reference to the means of assistance which are common among students here at Yale. These are of several kinds, and may be divided into two classes those which are furnished by the college and those which the students provide for themselves. Of the former there are eighteen scholarships, six of which are worth $100 each yearly, and the remainder about $60 each, which are given to deserving students of small means. In addition to these there are beneficiary funds sufficient so that about seventy students annually have their tuition either wholly or in part remitted. If the whole tuition is remitted it takes off $90 from the estimate given above for the term bills. There is still further assistance furnished by the college authorities in the educational library, from which the use of most of the text books employed in college may be obtained gratuitously. This still further decreases the estimate which we have given. There are also numerous prize scholarships and rewards given for excellence in literary work and in particular branches of study. The value of these amounts in the aggregate to more than $1275, and they are so distributed that not less than thirty persons are benefited by them each year.

The means by which students assist themselves are various and but few of them can be mentioned. One of the most common is that of being steward for an eating club. For the benefit of those not acquainted with Yale, it may be said that most of the students board in clubs varying in size from 15 to 100, and that the steward has his board and in the larger clubs a salary besides, for "running the club." In this way a large item of expense is saved. Another mode of obtaining money is by "tutoring." In explanation of this term it may be said that there are always some students in every class of poor scholarship and rich pockets who seek assistance in order to keep up with their class. This assistance, which consists of personal attention and instruction, from some more intelligent classmate or from some one in a higher class, is always well remunerated, the prices paid being from 75 cents to $2.00 per hour. Also those who are "conditioned" or fail to pass at the term and annual examinations, and frequently numbers of sub-freshmen who design to enter the next class, require this tutoring, so that the income from this source is by no means small. After the first or second year in college it is not difficult to earn from one to three or more dollars a day by this means, and that too, without any detriment to one's own scholarship. Another mode of obtaining money—not entirely reputable,but nevertheless practised to a large extent—is by writing compositions for those who had rather pay for them than write them themselves. A ready writer can obtain quite a yearly income in this manner. And finally there are often chances for obtaining remunerative work in the city, by way of writing, computing, clerking, etc. The writer knew of a case recently in which a student of the junior class earned during that year no less than $275 for work done in the city, besides performing his regular college duties. There are likewise time and opportunity for work during vacations, and it these are industriously employed, enough may be obtained to help part way through the following term.

Making now the deductions provided for by these means of assistance, which may be safely estimated for every student who is willing to help himself, at $250 a year, and it will be seen that the pecuniary difficulty of attending college diminishes very greatly. And if we allow for the unestimated expenses referred to above, $150, making the yearly cost of attending college about $650, the means of assistance mentioned will reduce the sum to about $400. And it may be further said that if any young man is willing to be moderate in his personal expenses, to reduce his gifts to college enterprises to a minimum, to squander very little upon societies and wear a little poorer clothes than can be bought for $100 a year—which, to the honor of Yale be it said, causes him no loss of esteem—these figures may be considerably further reduced. And in conclusion we affirm as the result of both observation and experience, that any young man who has good health, perseverance, and the power of adapting himself to various kinds of work, need not if he can by any means obtain $1,000 or $1,200, deny himself the benefits of a thorough course of study at Yale.

LITERARY.

Messrs. Roberts Brothers who have just published Radical Problems by Dr. Bartol; The Infinite and the Finite, by Theophilus Parsons; and The To-Morrow of Death, by Louis Figuier, announce for publication during March: The Thief in the Night, by Harriet Prescott Spofford; Stories told to a Child, by Jean Ingelow; A Shadow of Dante, by Maria Francesca Rossetti; Thoughts upon Government, by Arthur Helps; Bible Music, by Francis Jacox; and a series of English classics, including Bacon's Essays, Burke's Reflections on the Revolution in France, Cowper's Table Talk and Poems, and Hannah More's Life and Letters. . . . MacMillan & Co., of New York, will publish in a few days Mr Frederick Martin's "Statesman's and Merchant's Year Book for 1872." This is said to be the only work in the English language which furnishes a clear and concise account of the actual condition of all the civilized countries of the world. The ninth annual, issue has been carefully revised and corrected on the basis of official reports received direct from the heads of the leading governments of the world, in reply to letters sent to them by the Editor. The information thus collected inreference to the political, statistical, and commercial condition of these countries is therefore of the latest date and entirely trustworthy.

Perhaps the best illustration in the March *Aldine* is the full page one entitled, "Man's Unselfish Friend' the head of a noble dog. The intelligence, tractability, good nature, kindness of disposition, and readiness to do anything his master bids, which characterize a noble dog, are strikingly portrayed in this picture, and the execution of the work is so perfect that the more it is looked upon the more beauties are seen. The number contains also a full page picture of the heroine of "Hood's Bridge of Sighs" and one entitled "Blowing Rock," which with two others illustrates an article on the scenery of western North Carolina. The *Aldine* is rapidly obtaining the position of the leading art journal in America and the remarks of the guests at the recent Aldine dinner, given to celebrate the accession of Mr. Richard H. Stoddard to the literary editorship, show the esteem in which it is held. Those in New Haven who would receive the *Aldine* uninjured by its transmission through the Post may subscribe through Capt. John M. Parker 178 State street, state agent, who delivers copies to subscribers at their residences without extra charge.

King Arthur.*—This is not a new poem. It is more than twenty years since it first appeared. At that time it was not very kindly received, and after a short period of doubtful existence, dropped out of sight, and it was thought by very many, into the great sea of oblivion. But now, just when it was almost entirely forgotten, it is resuscitated by the author, and brought forward again, with touches of improvement by his maturer hand, for the readers and critics of another generation.

In the meanwhile, the Idyls of Tennyson have been written and published, and by his numerous readers perused and praised. It is the fashion to admire whatever the latter writes, and that may account for the preference in a multitude of instances. We are not of those who greatly admire Lord Lytton's poetry, for while it is accurate in construction, in prosody incomparable, and in taste unexcelled, it is nevertheless, to a certain extent, cold and artificial. Withal, however, we think King Arthur, as a poem—as an epic, for such it is—very far superior to the production, on the same subject, of the distinguished poet laureate.

It may be, as is claimed by many, that the poetic genius of the work before us is not nearly of so high a character, but we incline to the belief that, after the lapse of sufficient time, this poem will be regarded with

* *King Arthur.* A Poem. By Edward Bulwer, Lord Lytton, Revised Edition, Harper Brothers. New York. 1871.

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much greater favor, as even now its careful perusal must afford infinitely greater satisfaction. It is a true epic, while the other lacks nearly all the proper essentials of the heroic poem. It recounts the heroism of the finest epic character in English history, and true to the purpose of the poet, carries the hero safely and triumphantly through all difficulties, and leaves him in the midst of victory, glory, and prospective personal and political happiness.

It may be, as some of the critics who have anticipated us have said, that the book, while it has manifest beauties, has also manifest faults; that the poetry is stiff and stilted, artificial and uninspired. Yet no one can deny that there is power in the construction, and art in the execution. Throughout it is pervaded with lofty sentiments, and here and there, just where they ought to be, are outbursts of exalted eloquence of both description and reflection. In illustration we quote three exquisite stanzas, which are all we have space for, though there are many scattered through the volume, of equal beauty and sweetness:

"Oh, the old time's divine and fresh romance!
When o'er the lone yet ever-haunted ways
Went frank-eyed Knighthood with the lifted lance
And life with wonder charmed adventurous days;
When light more rich, through prisms that dimmed it shone;
And Nature loomed more large through the Unknown.

Nature not then the slave of formal law!
Her each free sport a miracle might be;
Enchantment clothed the forest with sweet awe:
Astolfo spoke from out the Bleeding Tree:
The Fairy wreathed his dance in moonlight air;
On golden sands the Mermaid sleeked her hair.

Then soul learned more than barren sense can teach
(Soul with the sense now evermore at strife);
Wherever fancy wandered man could reach—
And what is now called poetry was life.
If the old beauty from the world is fled,
Is it that Truth or that Belief is dead?"

It is evident, from the care with which the author has revised this poem, that he is inclined to regard it as his most important work. It is to be hoped that those who slighted it upon its first appearance, will give it, in its new dress, a more careful and candid perusal. It can not be that it will again be allowed to sink out of sight so entirely unappreciated. It is a work which, the more it is studied the more it will be admired for its many marvelous beauties. Indeed, we think it impossible that any one who aspires to keep up with modern literature, can fail to possess himself of this new edition, which, to the credit of the publishers be it said, is so highly attractive in appearance as to fit it to become an ornament to any library.

Gaudeamus.*—This very entertaining volume is made up chiefly of poems translated from the Gaudeamus of Scheffel, though part of that work is not here inserted, and the deficiency has been made up by the translation of some German Student Songs. The translator contributes an introductory memoir of Scheffel, from which we find that he was born in 1826 at Carlsruhe in Baden; was educated in the Lyceum of his native place, and from there went to the University of Heidelberg, where he took up the study of law. After having passed the requsite examination he began the practice of his profession in the town of Säckingen, and there produced his first poem "The Trumpeter of Säckingen," which met with great success. He soon left this place, however, travelled in Southern Germany, and afterwards settled as keeper of the Archives of Prince Fürstenberg at a small town with the almost unpronounceable name of Donaueschingen. Here he wrote several of his works, but it was not until he went to take up his residence a second time in Heidelberg, that he produced his Guadeamus, which is here in great part translated, and which is by far his most successful work. The immediate occasion of its composition was the delivery of a course of geological lectures by one of his friends. The facts contained in this, Scheffel was in the habit of versifying, of course giving them as far as possible a burlesque-scientific character.

There is as might be expected, great difference of treatment in the various poems that make up this collection; and the wit in some cases, it must be confessed is rather of the thinnest. The idea of applying our present conceptions and feelings to the beings that existed in ages long past, has now lost somewhat the charm of novelty which a few years ago, made all subjects treated in this way entertaining. And yet there are a number of very amusing poems in the accounts given of this geologic change, though we are often amused rather by the absurdity of the idea itself than by the wit in which it is set forth. As a fair illustration of the nature of the volume we quote one poem entire, though it makes but comparatively little display of the scientific material with which most of the others abound. It is called "The Tazzelworm," a provincial German word for dragon. It is a song sung at the fête of hanging up the sign of the Fiery Tazzelworm at a little inn in the Tyrol.

When yet a lake from mountain's grand
Ran down yon valleys through the land,
Here I a great flash vulgar thing
Lived, loved, and went a-dragoning
As Tazzelworm.

From Pentling unto Wendelstein,
Were rock and air and water mine,
I walked and flew, and kicked and rolled,
And 'stead of hay I slept on gold,
As Tazzelworm.

My scaly skin was all of horn,
And fire I spit since I was born;
Whatever up the mountain came,
I killed and gobbled it for game,
As Tazzelworm.

But when I so forgot God's law,
And ate up shepherd maidens raw,
Came Noah's flood, with all its fogs,
And knocked my business to the dogs,
As Tazzelworm.

And now you see me painted, shine
On Schweinesteiger's bran-new sign,
The shepherd maidens laugh in choir,
And not a mortal fears the fire,
Of Tazzelworm.

And oft some learned chap will shout
Before my eyes: 'His game 's played out!
He lived before the flood washed round,
But men of science never found,
A Tazzelworm.'

Weak minded skeptic! enter here,
Mix up Tyroler wine and beer,
But ere you come to Kufstein—whew!
You'll find that I have breathed on you,
As Tazzelworm.

And Klausen's landlord sad will say,
'By Jove—whence did those fellows stray?
Their legs are loose—their head's are n't firm,
They all have seen the Tazzelworm,
The Tazzelworm.

The poems that deal with geological science will perhaps be as fairly illustrated by the following one, entitled "The Icthyosaurus."

The rushes are strangely rushing,
The ocean uncannily gleams,
As with tears in his eyes down gushing,
An Ichthyosaurus swims.

He bewails the frightful corruption
Of his age, for an awful tone
Has lately been noticed by many,
In the Lias formation shown.

'The Plesiosaurus, the elder,
Goes roaring about on a spree;
The Pe trodactylus even,
Comes flying as drunk as can be.

'The Iguanodon, the blackguard,
Deserves to be publicly hissed,
Since he lately in open daylight
The Ichthyosaura kissed.

'The end of the world is coming,
Things can't go on long in this way;'
The Lias formation can't stand it,
Is all I've got to say.'

So the Ichthyosaur went walking
His chalks in an angry mood;
The last of his sighs extinguished
In the roar and the rush of the flood.

And all of the piggish Saurians
Died too, on that dreadful day,
There were too many chalks against them,
And of course they'd the devil to pay.

And this petrifideal ditty?
Who was it this song did write?
'Twas found as a fossil album leaf
Upon a coprolite.

This is a very fair specimen of the burlesque-scientific poems which take up all of the first part of this work. Of the "German-student-songs of the new school," several translations of which are given, we furnish the two following specimens, as good certainly as any, and better than most. The first is entitled,

HEINZ VON STEIN.

Outrode from his wild dark castle
The terrible Heinz Von Stein:
He came to the door of a tavern,
And gazed at the swinging sign.

He sat himself down at a table,
And growled for a bottle of wine;
Up came, with a flask and a corkscrew,
A maiden of beauty divine.

Then, seized with a deep love-longing,
He uttered, 'Oh damosell mine,
Suppose you just give a few kisses
To the valorous Ritter Von Stein.'

But she answered, 'The kissing business
Is entirely out of my line;
And I certainly will not begin it
On a countenance ugly as thine.'

Oh, then the bold knight was angry,
And cursed both coarse and fine;
And asked, 'How much is the swindle
For your sour and nasty wine?'

And fiercely he rode to the castle,
And sat himself down to dine;
And this is the dreadful legend
Of the terrible Heinz Von Stein.'

The second is to the air of Von Weber's *Dernière Pensée*, and is entitled the

BRIGAND SONG.

There's no life is nobbier
Than to be a rob-bier,
In the gloomy, gloomy, gloomy wood.
Always blood a-drinkin'
Killin' folks like winkin'
Little hinfants murderin' all we could.

Comes a carriage glidin'
Or a feller ridin'
Or a tinker travelling with his cram.
Then each jovial rover
Holloas out, 'Shell over!
For your life we do not care a damn.

We have made large selections from the contents of this little volume, because it is more addressed to students as a class than poetry is generally. And while it cannot of course be spoken of as being either poetry or wit in its highest form, it will certainly be found very entertaining, and will doubtless give to students as clear an idea of geology as they can get of that science in the time usually allotted to it in most American colleges.

COLLEGE RECORD.

Pacific University, (Forest Grove, Oregon.)—In our issue of January 6th, we affirmed that this institution had some $30,000 worth of property. We are now informed however, that this was a mistake. The University has an endowment fund of $65,000, well invested; so that most of it yields an income of ten per cent *coin*. The other property is worth from twenty to thirty thousand dollars. The library numbers about 5000 volumes. There are at the present time in all departments of the institution 140 students. The collections of scientific apparatus, and of specimens in natural history are small, but rapidly increasing.

* *Gaudeamus.* Humorous poems, translated from the German of Victor Scheffel, and others. By Charles G. Leland. Boston: J. R. Osgood & Co., 1872.

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Iowa College, (Grinnell, Iowa).—Iowa College lost its largest Iowa benefactor, in ex-Senator Grimes. He gave land for a scholarship fund some years ago, which, it is expected, will produce $10,000. Four students—two in college, one in the ladies' course, and one in the Academy—have this year been selected as "Grimes Scholars" by the Faculty. Notwithstanding the burning of East College, progress is still the order of the day. Fifty lads having commenced preparation for the college course the present term. The Catalogue for 71–72 shows an increase of 81 over last year. The students come from 15 different States, and 38 Iowa counties. Of male graduates (classical) over half have chosen the ministry. Nine of the last class are teaching in Iowa. The college has four graduates studying theology at Chicago, and two at New Haven.

Bethel College, (Russelville, Ky.)—The catalogue of this college for the current session shows 80 students of whom 18 are preparing for the ministry. The full collegiate course requires five years, the first year including a grade of students which may be called subfreshmen. In connection with the college there is a boarding house and during the month of January those student ministers who had means were charged for the month the full cost of board $7,90. Those whose means were limited were credited with donations, and paid a balance of $1.02; those who had nothing, received board gratis. The fare is said to be excellent, and the system seems perfect. The endowment of the college, yielding income, is $85,000 and the non-yielding real estate is worth fully as much more. The fire at Chicago depressed the real estate near that city, and it is not just now marketable. The figures given, however, do not overstate its value. There is in addition the Enlow fund of about $6,000, a bequest for the support of student ministers. There is no debt or pecuniary embarassment. As soon as the Chicago property is disposed of, it is expected to add at least two professors, to purchase another boarding house, and to build a fine gymnasium hall. During the past year a handsome residence for the president was erected.

Wagner Free Institute of Science, (Philadelphia, Penn.)—This institution is situated on the south west corner of Seventeenth street and Montgomery avenue, and owes its origin to the liberality of Prof. William Wagner, who has erected a spacious building and furnished it with large collections of natural history and philosophical and chemical appratus for the illustration of the various branches of science and art, such as astronomy, geology, philosophy, chemistry, chemical analysis, and elocution. The lecture-room of the institute is 60 by 80 feet long, and capable of seating 1,300 persons. Upon one side of it are placed large cases filled with instruments and diagrams for the use of the different professors. A commodious laboratory is attached to the lecture-room, containing twelve tables, and well supplied with chemicals, necessary apparatus, evaporating and assay furnaces, etc., for the use of students. In addition to the laboratory there are also eight convenient and well-furnished rooms for the instructors and students in the different departments. The museum is 65 by 150 feet in size, having two galleries surrounding the entire room; it occupies the whole of the upper part of the edifice. A portion of one of the galleries contains the library, which already numbers nearly 12,000 volumes. The botanical, geological, mineralogical, conchological, and anatomical departments are very fine. The accessions to the museum which are constantly being received will without doubt eventually render it one of the most attractive resorts of the city. Large purchases of instruments for illustration of physical sciences have quite recently been made.

Hobart College (Geneva, N. Y.).—Within a few weeks the catalogue of Hobart College has been issued, containing a full statement of the officers, students, requirements, etc., of the college. With the Rev. Dr. Van Rensselaer as President, new life seems to have been infused into officers and students. A number of Grammar Schools are now in connection with the college from which there may be expected young men who are well fitted to enter upon the curriculum of college duties.

The celebration of Washington's birthday by the students was a success in every respect. The Master of Ceromonies for the occasion was L. W. Applegate of Wethersfield Springs; the Reader, Charles N. Hemiup, of Geneva; Poet, Harry E. Mead of Dayton, O.; and George Smith of Seneca, as Orator. After a prayer by the President, reading of selections from the writings of Washington followed. Mr. Hemiup showed much taste in his choice, and a careful study of, and thorough acquaintance with his subject. The poem was spoken of in the highest terms, and in originality and true poetic spirit far surpassed anything which has been heard for many years at former celebrations. The oration was a just and eloquent panegyric on the life and noble deeds of Washington, and although on so trite a subject, yet it was noticeable that the orator had succeeded in giving it life and eloquence. Although the weather was unfavorable, an excellent audience complimented the speakers with their presence and paid excellent attention throughout. Prof. J. H. McDaniels, having obtained a leave of absence until the beginning of the next Academic Year, sails for Europe on March 2d, and during his absence the duties of the Greek Department will be fulfilled by T. C. Featherstonebaugh, the Tutor in Greek.

Harvard College, (Cambridge, Mass.) — Three meetings of the Board of Overseers of Harvard have been held recently. At the first meeting, which was a special one, the following vote of the Corporation was concurred in by the Board of Overseers:

Voted. That for bachelors of arts of Harvard College and bachelors of science, laws and divinity of Harvard University, residence or study at the university may be wholly or partly dispensed with, at the discretion of the academic council, as a condition for receiving a higher degree.

A little other business was also done. The president of the college, communicated a vote of the corporation to establish a Bussey professorship of the New Testament Critcism and Interpretation, and the treasurer submitted a report in relation to the Saltonstall scholarship.

At the second meeting which, was an adjourned special one the following resolutions were passed.

On the academic department:—

Resolved. That this board request the Corporation to take such measures as are necesarry in order to restore the teachers of the English department to their duties in that department; and that in the opinion of this board such resources as are available by the college for that purpose be employed in instruction in the use of the English language.

Resolved. That the study of psychology deserves and should receive more attention in the university.

Resolved. That the department of political economy should have watchful care and ample provision should be made for its greatest usefulness.

On the library:—

Resolved. That some plan should be devised which will make the library more accessible to students, and a more efficient instrument in their intellectual and moral education.

The Rev. Dr. Walker reported in favor of concurring with the corporation in the establishment of a Bussey professorship of New Testament Criticism and Interpretation, and the board assented to the establishment.

At the third meeting, which was a regular one, the board of Overseers concurred in the vote of the Corporation conferring the degree of M.D. upon the 34 members of the graduating class in the medical school. Samuel Brearley, B. A. was appointed proctor and the election by the Corporation of Messrs. Wm. Gray, Henry J. Bigelow, and Thomas G. Appleton, as trustees of the Museum of Fine Arts concurred in. The vote of the corporation electing Ezra Abbot, LL.D., as Bussey professor of New Testament Criticism and Interpretation, as is customary, was referred to a committee consisting of Messrs. James Walker, Samuel Eliot and Waldo Higginson.

The following vote in reference to the Saltonstall scholarship, was adopted, after which the meeting adjourned:

"That the treasurer be requested to separate the funds, of Mary and Leverett Saltonstall from all other scholarship funds, so far as to enable this board to know the amount of the funds appertaining to the scholarships in their appointments, from time to time."

Normal College, (New York City).—This institution, established in the fall of 1869 as a Normal school was changed into a college by the legislature of 1870. The primary object of its foundation was the instruction of young lady teachers, but others, however were not excluded, provided they had been one year in the public schools and could pass the requisite examinations. The college has now a faculty thoroughly organized, as follows: Thomas Hunter, President and Professor of Intellectual Philosophy; Arthur H. Dundon, Vice-President and Professor of English and Latin; Joseph A. Gillet, Professor of Physics and Mathematics; Philip M. W. Redfield, Professor of Natural Science; Charles A Schlegel, Professor of German and French; Miss Lydia F. Wadleigh, Lady Superintendent; Miss Winterburn, Musical Directress; George Mangold, Tutor in Music; Miss S. C. Heybeck, Secretary and Librarian; Miss Ida E Brace, Tutor in Intellectual Philosophy and Methods of Teaching; and eighteen other lady tutors.

The course of Instruction extends over three years the students being classed as Introductores, Sophomores, and Seniors. The studies of the first year comprise history, geography, Latin, French and German, algebra, geometry, natural philosophy, music, drawing, penmanship, etc. These are continued during the second year with the addition of astronomy and rhetoric. Attention is also paid to etymology and composition. In the senior year English literature, zoology, civil polity, trigonometry, intellectual philosophy, object teaching, and lectures on anatomy, physiology, chemistry and school government are introduced. The average attendance during 1871 was 969. The college hours are from 9 A. M. to 2 P. M. for the regular students, every day except Saturday and Sunday, and there isa Saturday session for the benefit of teachers in the public schools who had not the benefit of such training before receiving their licenses.

The cost of the college for 1871, including the amount paid for the Saturday sessions, was $79,919. A new building is being erected on the block bounded by sixty-eighth and sixty-ninth streets, Fourth and Lexington avenues. It will cost when finished $350,000. The College is under the control of the city Board of Education and it has been with no small satisfaction that they have contemplated its success. Lately however considerable opposition has sprung up against the institution. The objections urged against it, are that the new college buildings are too far up town; that these buildings are costing to much; that it will require too great a sum to keep the institution in operation; and that it is lowering the grade of scnolarship and instruction in the public grammar schools, where young ladies were formerly fitted to be teaahers. This results from the fact that most of those intending to teach now attend the College, leaving a lower grade of scholars to the grammar schools. And it is urged by those opposed to the college that the work which it is doing is not of sufficient value to warrant the endangering of a system which has proved so excellent heretofore.

College of New Jersey, (Princeton, N. J.)—At a meeting of the Board of Trustees of this institution, held last December, a set of resolutions was adopted to the effect that hereafter, in regard to the Junior Orator Contest, the Board shall elect two Judges who shall in turn, select an umpire, and the three together shall constitute the board of Judges upon the merits of the speakers; that the orators shall not be hereafter distinguished by the badge of their respective societies; and that the order of speaking shall be determined by lot, so that it shall not be known to which societies the several orators may belong.

The subject of the founding of a scientific school was

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also discussed, and it was resolved that a committee be appointed to consider the desirableness of establishing a school of science in connection with the college, and prepare a draft for the constititution of such school, and bring the scheme under the notice of those who may be expected to favor it.

New regulations in reference to examination were also passed at this meeting as follows:

1. That at the end of the second term of the college year, the senior class be examined in the studies completed by them at the time; also that they be examined in the Latin, Greek, and Mathematics required for the degree of A.B.

2. That the junior class be examined in the studies then completed.

3. That these be the only full examinations required of the two higher classes, but that the last exercise of the term in each department be a written recitation on such portion of the work of the term as the professor may deem advisable.

4. That the examination of the sophomore and freshmen classes be conducted substantially as heretofore, but may be made somewhat lighter at the discretion of the instructor.

5. That hereafter the grades of all the classes be calculated, and circulars sent to parents and guardians but twice in the year, viz., at the end of the first and third terms.

Work has been stopped on the new library until the arrival of warm weather. The sum of $120,000, which was given for the erection of the library, is now in the possession of the college. the whole amount having been paid down. The Elizabeth Foundation Fund is the sum of $100,000, and was given by John C. Green, of New York city, the annual interest of which is devoted to improving the college grounds, repairing Dickinson Hall, and purchasing books for the library. The examination for the Stinnecke Scholarship will take place on the 13th and 14th of September next. This scholarship is $1,500; $500 for each year of college after the freshman, and is given to that one who shall pass the best examination in the sophomore class in certain studies. Of course the contestant must have passed through the freshman class of this college. This prize is given once in three years. It was the desire of the Faculty to divide it, giving the sum of $500 each year, but they were informed by legal gentlemen that this could not be effected according to Mr. Stinnecke's will. It has been estimated that the fellowships, scholarships and prizes, annually awarded at Princeton, amount in number to fifty, and in aggregate value to $5.510.50, with an average value of $110.21 each. In addition to these the college has sixty-one endowed fellowships each of the value of $1,000 instituted for the benefit of needy and meritorious students.

Yale College, (New Haven, Conn.)—We ought to have said before this, and accordingly make amends now, by saying that much of the news which we present each week under the above head is obtained from the columns of *The Yale Courant*. On taking charge of the *College Courant* on the 1st. of January last we determined to devote a little less space to Yale matters, with a design of making the paper more generally interesting to college men everywhere. We accordingly discontinued the old practice of transferring matter bodily from the *Yale Courant*. We now go through that publication each week and select from it such items as seem most interesting to College and Yale men, and add to them besides whatever information we are able to obtain. This *exposé* of our method is made in order to give to the editors of *The Yale Courant* the credit which is their due.

That the faculty of Yale are not entirely confined to the old regular routine in their methods of teaching; but are endeavoring to continually find better methods and achieve better results, is evident to all who keep posted in regard to the matter. Two new plans have recently been put in practice, the one with the seniors in political philosophy, and the other with the sophomores in Latin. Prof. Wheeler with the seniors, instead of using Lieber's Civil Liberty as a text book, as is customary, has treated some of the topics embraced in that book as follows: Some subject, as for instance, the veto power, is given to the class to prepare themselves upon, with the notice that they will be required to tell what they know about it at some future time. The class then proceed to inform themselves from all the sources at their commaud. At the time appointed a dozen or more of them are asked for information, and then information is given by the professor, which is followed by a general questioning of the professor by the class. In this way a more thorough treatment of the subject is secured since various authors are consulted, and the information given by the professor is drawn from sources not generally accessible, and still further a chance is given for independent investigation and a consequent interest aroused which is not common when lessons are merely learned from a text book. The topics are given out about once in ten days, and the plan works so well that it will be pursued next term and probably next year.

In the other plan with the sophomores, Professor H. P. Wright, assistant professor of Latin, uses about half of each Monday morning's recitation in the usual way and then occupies the rest of the time in giving the class a passage which they have never seen before and requiring of them a written translation. This very agreeably breaks in upon the routine of classical study, gives a chance for testing one's knowledge in the best way possible, viz., by using it, and works well. Some of the papers show a knowledge of the language which is very satisfactory. Prof. Wright is also endeavoring to give some knowledge of the literature of the language and as one means to this end printed slips containing some of the oldest specimens of Latin in existence have recently been given to the class. Among these are the song of the Arval Brothers, the song of the Salii the *Leges Regiæ* and extracts from the laws of the Twelve Tables.

Lectures in abundance still satisfy and instruct the members of the different parts of the university. Since our last issue four lectures have taken place. Rev. B. G. Northrop who lately returned from Europe, lectured in the Mechanic's Course Thursday, Feb. 29, upon "The Mechanics of Europe," and in the same course Professor Norton on the following Monday treated of "The Forces of Inanimate Nature." On the same evening, Professor Eaton delivered his usual lecture in the Art Gallery, upon "The Laocöon—The Farnese Bull," and last Wednesday evening, Prof. J. H. Niemeyer delivered a lecture in the Art Gallery upon "Michael Angelo."

Mr. Luther Maynard Jones, secretary of the Yale Alumni Association in New York, has, with the approval of the Executive Committee, issued a circular calling upon all Yale men in New York to join the Association, and giving the articles of association. The circular sets forth the importance of intelligent action on the part of the alumni in filling the six places in the corporation, and the great need of raising the amount of $500,000, known as the Woolsey Fund, and urges a union of the various alumni associations throughout the country, and an increase in their membership as a means of accomplishing these results. These circulars are sent to each of the N. Y. alumni, with a request that they sign the articles of association and return them with their annual dues, $3.00, to the secretary. The circular affirms that the executive committee are making arrangements for a dinner, but the time when it will take place has not yet been announced.

The Cincinnati Alumni Association hold their Annual Reünion, Tuesday, April 16th.

Professor Geo. F. Barker has been appointed by Gov. Jewell as one of the State chemists.

Mr. O. G. Corwin of the Freshman Class, died on the 27th ult., of consumption, at his home in Succasunna, N. J. He had not been confined to his bed for a single day, and during his last hours he kept it only because his friends insisted upon it. His weakness and exhaustion caused a gentle sleep, from which he never awoke. The usual resolutions of regret and esteem were passed by the class.

The articles entered for competition for the Junior prize speaking were handed in last week. The writers chose subjects as follows: The Statesmanship of Cardinal Richelieu, 13; The International Society, 9; Pacific Coast Literature, 8; The Iconoclastic Spirit of the Present Age, 6; The Last Decade, 2; Russia and England in the East, 1; No one saw fit to write upon "Plato and Aristotle," or "The Spanish Rule in Cuba." The announcement of the successful writers will be made in a week or ten days, and the speaking takes place in the college chapel, April 2.

A writer in the *Yale Courant* calls for an authoritative history of Yale, and we second the call.

The topic for the grand debate between the Yale Law School and the Dwight Union Debating Club was selected last Wednesday night. This is the text of it: "*Resolved*, That wonan suffrage is wrong in principle and detrimental to the best interests of society." The debate will be on Wednesday the 20th of March. The free tickets of admission to the Supreme Court room are in the hands of gentleman of both organizations.

Eleven out of the thirteen who recently received composition prizes in '74, are members of the first division of scholarship. Five out of the number were members of the old Fourth Alphabetical Division. The standard of the essays is said to be very excellent indeed, indicating the existence of fine literary talent in the class.

The Sophmores are engaged in collecting Prof. Newton's Analytical, Parabolic, Elliptic, and Hyperbolic jokes for incorporation in the next Yale Almanac.

A friend informs the *Yale Courant* that the man who appeals for congregational singing and mentions the existence of it at Cambridge would be eminently satisfied by a visit to the Harvard Chapel service.

Gordon, formerly of '72 is successfully engaged in teaching school in Guilford, where he is often favored with visits from his old classmates.

The annual of the Seniors begins June 18th, concludes July 3rd, and is carried on without recitations in the meantime.

One of the Seniors last week distinguished himself by stealing for memorabilia one of the skulls from the table of Dr. Sanford's lecture room. Public opinion however, was to strong for him and after keeping it a day or two he returned it.

The Seniors have got the usual geologizing fever which annually comes on at about this time, and are haunting daily the stone yards on High street and others in the city. Professor Dana will soon begin his usual excursions.

A Senior at one of President Porter's Theological Lectures recently, electrified his comrades by inquiring whether the Apostle Paul wrote in the year 60 A.D. or B.C.

We understand that a large amount of sickness prevails in '73.

The third thousand of Yale Almanacs has been called for and favorable notices and orders from all sides continue to come in.

Twelve men entered the Sophomore class at the beginning of the year, of which number, seven are in the first division in scholarship.

About half of '72 have decided to have their class pictures taken again, and ninety-five of them have ordered albums from Notman.

The Gas monument corner of High and Library Streets, has been "headed" anew and the nocturnal peeler once more hovers round.

The pitching alley cost $147, which was $47 more than at first estimated. It has been well patronized since its erection.

The old third division of the Junior Class on Saturday last elected Mr. Joseph P. Ord as Class Historian, in place of Lyman, resigned.

The Chicago Theological Seminary has scattered its catalogues profusely among members of the Senior Class during the last week.

YALE PERSONALS.

'37, ROGERS.—A daughter of Rev. E. P. Rogers, D.D., pastor of the South Reformed (Dutch) Church in New York, was seriously, if not fatally, injured at Mott Haven, near New York, Feb. 27th., as she was attempt-

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ing to pass from one car to another, or to leave the car while the N. Y. & N. H. R. R. train was in motion.

'41, NORTHROP.—Rev. B. G. Northrop, secretary of the Connecticut State Board of Education, has received and holds, under advisement a proposition made through Mr. Mori, the Japanese ambassador, to proceed to Japan and remodel the educational system of the Empire. The salary is to be $10,000 a year in gold.

'54, DORMAN.—Rev. Lester M. Dorman, recently admitted a deacon in the Episcopal Church, is preaching at Grace Church, Fair Haven.

'54, TWOMBLY.—Rev. A. S. Twombly, pastor of the Presbyterian Church in Stamford, has been called to the pastorate of the Winthrop Congregational Church in Charlestown, Mass.

'57, CROXTON.—Gen. John T. Croxton is president of a R. R., company which proposes to build a Rail Road from Louisville, Ky., through Paris, Ky., and connect with the Ohio and Chespeake R. R.

'58, LEE.—Rev. Samuel H. Lee, pastor of the second Congregational Church in Granfield, Mass., has been called to the pastorate of a Congregational Church in Cleveland, Ohio.

'60, GAUL.—Edward L. Gaul is at present the Real Estate editor of the New York *Times*.

'62, MURRAY.—Rev. W. H. H. Murray has determined to discontinue the publication of the series of sermons known as the "Park Street Pulpit." In a letto the publishers of this series, Messrs. J. R. Osgood & Co., he says he is compelled to make the sacrifice this change will be to him, by the condition of his health.

'64, WILSON.—Henry Wilson died very suddenly at his home in Jersey Shore, Penn, last August, after a sickness of only one day.

'65, STORRS.—The Rev. Richard S. Storrs of Brooklyn preached on Sunday, the 11th ult., at the American Chapel, Rue de Berri, Paris, an extemporaneous discourse, and was to preach there again on Tuesday, the 20th ult.

'67, S. S.—TRUMP.—Frank Trump who returned from Duluth, Minn., about a year ago, is at present engaged in the foundry and machine business, in Williamsport, Penn. He is a member of the firm of A. T. Nichols & Co.

'67, GAMBLE,—James M. Gamble, is practicing Law in Williamsport, Penn. He is a member of the firm of Allen & Gamble, and is situated at No. 46 Pine street.

'67, POWERS.—Rev. Henry Powers, of Brooklyn, N. Y., in a note to the *Congregationlist* corrects the statement that he is attempling to organize an "ideal church." The *Independent* says his Sabbath evening services at the Acadamy of Music, began at the request of many ministers and laymen of all denominations, are crowded and that hundreds are turned away every night.

'68, AYERS.—R. W. Ayers, has an able article in the Waterbury *American* of Saturday, March 2nd, advocating the removal of Trinity College to New Haven.

'68, PARSONS.—William Parsons is practicing law at Lock Haven, Pa., and is likewise Deputy Mayor of that city.

'70, RUSSELL.—J. M. Russell is engaged during this year in attending to his plantation, four miles from Paris, Ky.

'71, FORD.—I. H. Ford who is taking a course of law in the Yale Law School, has accepted a position upon the New Haven *Palladium*.

GLEANINGS.

PERSONAL.

— The Rev. Dr. Robinson, of Rochester, N.Y., has accepted the presidency of Brown University, at Providence, R. I.

Only about one half of the $50,000 desired for the memorial to Dr. Hodge of Princeton College has been as yet subscribed.

Professor John R. French, formerly connected with Genessee college in now professor of Mathematics in Syracuse University.

Rev B. Manly, Jr., LL.D. recently elected president of Georgetown College, at Georgetown, Ky. has taken charge of the institution.

Gustavus J. Orr, professor in Mathematics in Oglethorpe Univerity at Milledgeville Ga., has been appointed State Commissioner of Education.

— The Atlanta *Sun* announces the connection of Mr. David Wills, D.D., President of Oglethrope University, with the editorial corps of that paper.

— The Rev. Dr. E. W. Fisk, pastor of the Presbyterian Church at Greencastle, Ind., has accepted the presidency of the Indiana Female College.

Professor Martin Gropius has received instructions from the Prussian Government to prepare a design for a new university building at Kiel, to be situated in the palace gardens.

— Mr. James E. Batchelder, a graduate at West Point, class of 1868 has accepted the professorship of modern languages in Norwich University at Northfield, Vermont.

— Miss Allie B. Perkins has resigned her professorship of ancient and modern languages in the Illinois Female College at Jacksonville, and is now at her home in Chicago.

Rev. Dr. Rambaut has been relieved for a time, by the Board of Trustees of William Jewell College, from his duties as President, with the hope that he may recover from the prostration he suffers on account of overwork and anxiety.

Rev. Dr. Macdonald, of Princeton, N. J., at the request of the students of the Boston Theological Seminary will deliver a Course of Lectures on the "Life and Writings of the Apostle John," commencing on Tuesday, March 5, 1872.

— Rev. G. W. Hyde, of Missouri, has been elected financial agent and Professor of Homiletics in the Theological Department of William Jewell College. Rev. W. R. Rothwell has been elected Professor of Natural History and Natural Theology in the same College.

— Professor Edwin B. Sanborn of Dartmouth College, has accepted an invitation from Colonel John B. Budrelder, chairman of the executive committee, to deliver the address on "Decoration day" in May next, in his native town, Gilmanton, N. H., at the annual reunion of citizens and others interested in refitting the cemetery.

— The *Independent* regards Ezra Abbott, the newly elected professor of New Testament Criticism and Interpretation in the Bussey Institute of Harvard University as the only man in the country whose erudition in that department deserves to be compared with that of Tregelles and Scrivener, in England, or Tischendorf, in Germany.

— An effort is making by the friends of the Rev. Dr. Samuel B. Wylie, for many years Professor and Vice-Provost in the University of Pennsylvania, to place a memorial window, designed by Mr. Richards, in harmony with that to the memory of Franklin, in the new chapel of the University building, and the treasurer of the University Alumni has undertaken the collection of the funds.

For the chair in Glasgow rendered vacant by the death of Dr. Gibson, there are some eight or ten candidates. The appointment lies with the General Assembly, but the Presbyteries have the privilege of nomination, and they have been freely exercising the privilege. The following have been suggested: Dr. Thomas Smith, Dr. Walker of Carnwath, Mr. Marcus Dods, of Glasgow, Mr. Bruce, and Dr. McGilvray.

Rev. Francis L Patten who, as has been previously announced, has accepted the Professorship of Didactic and Polemic Theology in the Seminary of the Northwest at Chicago, terminated his pastoral labors with the South Presbyterian church of Brooklyn, N. Y., on Sunday. February 25. Mr. Patton made a brief statement of the reasons which had led him to resign his pastoral charge and accept the Professor's chair; that the aim of his life had been to thoroughly study theology; that an opportunity of this kind is seldom offered, and that he felt his peculiar aptitudes led him in this direction,

COLLEGE.

— Twenty of the students in Dickinson's College this year are candidates for the ministry.

— Strasburgh University, where Goethe took his doctor's degree one hundred years ago, is reopened.

— The law department of the Howard University, at Washington, recently graduated thirteen young colored lawyers.

The recent graduating class of the Law College in connection with the Kentucky University at Lexington, numbered fifteen.

— A collection amounting to $25 was recently taken at the Congregational church in Olivet, Mich., to aid young men in Olivet College having the ministry in view.

— The Supreme Court of the United States has just decided that the union of Jefferson and Washington Colleges, and the establishment of the College at Washington, Pa., is legal.

— The trustees of Columbia College created, at their last meeting, an adjunct professorship in the Department of English Literature. An election will be held to fill this chair on the first Monday in May next.

— Prof. J. J. Brown, Professor of Chemistry, and J. P. Griffin, local agent, have recently visited Washington and made a selection for Syracuse University, of five hundred valuable models, from those now being distributed by the Patent Office.

— $55,000 have been subscribed by three gentlemen, —one giving $15,000, and two $20,000 each,—towards the $100,000 endowment of the University at Rochester. The seminary has also received additional subscriptions to nearly the same amount from two of its friends.

— The news is confirmed that, by order of the Sultan, a Turkish university is to be founded at Constantinople, open to all creeds and religions. The Turkish government is taking steps for securing the assistance of celebrated professors from all parts of Europe.

— It is said that the Ecole Politechnique of Paris, hitherto a civil and military college, is to become a part of the Department of Public Works and to train only civil engineers and chemists. The military pupils will be transferred to the Ecole de St. Cyr, in connection with which military schools are to be established in various parts of France, and to give instruction to children of French soldiers killed in the late war.

— The item in our issue of Feb. 24, in reference to the change of professors in Emory and Henry College, should have applied to Emory College, as we are kindly informed by a correspondent. Emory and Henry College is at Washington, Virginia, while Emory College is at Oxford, Ga., and it is in the latter institution that the change mentioned has taken place.

— Fourteen young Chinese, belonging to the noblest families of the Celestial Empire, have just arrived in Paris from Canton, sent by the Emperor to be instructed at the expense of the State. They are to be distributed between the Colleges of Saint Louis and Louis le Grand. Every year fourteen young men are to be sent to France.

— Work will soon begin upon the medical college at Hanover, which is to be completely remodelled. The upper story will contain the anatomical museum, which is to be purchased with the munificent donation made for that express purpose by the Hon. E. H. Stoughton of New York city. The exterior of the room facing the road will bear the inscription "Stoughton Museum."

— A Literary Society, composed of the Faculty of the Chicago University and Theological Seminary, together with a select few of the Baptist divines of the city, hold semi monthly meetings for literary and intellectual discipline at the houses of the professors. The last meeting was held at the house of the President of the Theological Seminary, Dr. Northrup, who entertained his guests with an essay one hour and ten minutes long on the subject of Inspiration. A spirited discussion extending over an hour, followed the presentation of the argument.

— H. E. Parkhurst and L. W. Cuningham, secured the German prizes at Amherst this year. There were six competitors and the examination was both written and oral, the former being on a passage from a German newspaper. Amherst is to publish next commencement instead of the regular Triennial Catalogue, a Semi-Centennial one in English, with the place of residence, profession, and present occupation of every alumnus living. For this purpose information is desired from everybody and should be sent to the professor of Latin, or the college librarian as early as April 1st.

— Oxford and Cambridge Universities have some seven hundred and fifty fellowships, each of the average value, according to Mr. Paley in a pamphlet recently published, of not less than three hundred pounds a year. Adding the revenues of the heads of houses, the total amount divided by the colleges among their graduate members is more than a million and a quarter of dollars in gold annually. This is given away entirely in the form of sinecure prizes. No duties, except the most formal and trifling, are required from any one on the ground of his tenure of a fellowship. To every office held by a fellow involving any real work, an additional salary is attached.

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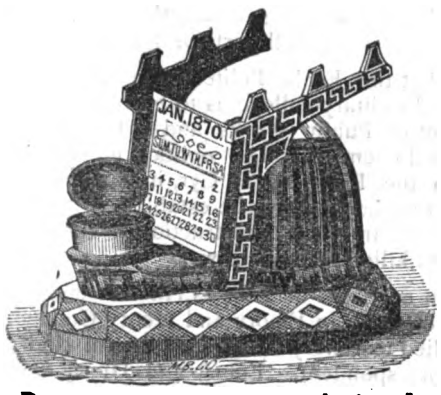

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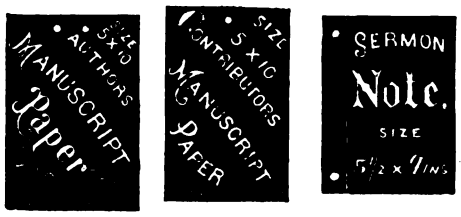

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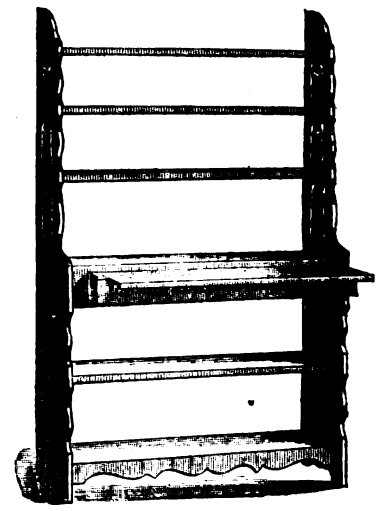

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, MARCH 16, 1872. NUMBER 11.

THE WOOLSEY FUND OF YALE COLLEGE.

In reference to various enquiries respecting the progress of this Fund, we are authorized to print the following papers:

I.

A PRELIMINARY REPORT ADDRESSED TO THE CORPORATION AT THEIR MEETING MARCH 13TH, 1872.

To the President and Fellows of Yale College.—GENTLEMEN:—The undersigned, the standing Sub-Committee having charge of the subscriptions of the Woolsey Fund, believe that you will be gratified to learn that the subscription is making good progress. We have sent to all the graduates of the Academic Department whose addresses are known, copies of the original statement respecting the appointment of the committee, of an appeal for co-operation, of the pamphlet called The Needs of the University, and of the Addresses at the Inauguration of President Porter. Class agents are working in behalf of the fund in every class but three, between 1816 and 1871, and gentlemen have been chosen to act in these three classes. We have not yet asked the class agents for even a preliminary report of the result of their work, but subscriptions to the amount of $44,851 have been already handed us in form, and we know of a large additional amount which is pledged, but not yet formally reported to us.

It may be proper for us to add that the Committee does not propose to incur any expenses for commisions, or agencies, in the collection of this fund, but simply such necessary outlays as printing and postage.

It would greatly facilitate our work, and we believe it would promote in other respects the interests of Yale College, if the Corporation would cause to be printed a list of the living graduates, with their customary titles and their post office addresses as far as known. We take the liberty to ask that you will cause such a roll to be printed as early as may be possible.

Very Respectfully,

MAUNSELL B. FIELD,
DANIEL C. GILMAN,
MASON YOUNG.

March 11, 1872.

II.

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William Walter Phelps, '60, New York.
Mason Young, '60, New York.
Clarence King, Ph. B., '62, San Francisco, Cal.
Rev. William G. Sumner, '63, Morristown, N. J.
M. Dwight Collier, '66, St. Louis, Mo.

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TREASURER:—Alexander H. Stevens, Gallatin National Bank, New York.

III.

A CIRCULAR ADDRESSED TO CLASS AGENTS, OCTOBER 1872.

To the Class Agent for the Class of 18

1. The committee has sent from New Haven to each graduate whose address is known the original announcement of the project, the pamphlet published by the college on the "Needs of the University," and an appeal prepared by the committee.

2. You are requested to send a letter, or circular, to every member of your class, urging him to aid in this work according to his means. The success of our efforts will depend upon the earnestness and tact with which these letters are written.

3. If you desire it, the committee will supply you with envelopes, stamped and printed.

4. This book is intended for a record of the work done in the class. It is important that the record be accurate and complete.

5. Your prompt action is urged. Subscriptions will be welcomed not only from the graduates, but from the non-graduate members of the classes, from fathers whose sons have been trained in Yale College, and from all friends of the institution; but the appeal is made to the graduates.

6. Subscriptions should be made in the form prepared by the committee, and each paper, as soon as signed, should be forwarded to the committee at New Haven, to be kept on file.

7. Payments should be made directly to the Treasurer of the committee, Alexander H. Stevens, Esq., Gallatin National Bank, New York, or to Henry C. Kingsley, Esq., Treasurer of Yale College, New Haven, Conn. Receipts will be sent to subscribers for all moneys paid.

8. You are advised to call attention to the fact that subscriptions payable in five annual instalments are invited. This, it is thought, will prove to be a popular plan, enabling men who can give but small amounts at any one time to render collectively important help.

9. Letters of inquiry and reports may be addressed, at any time, to the "Executive Committee of the Woolsey Fund," Yale College, Box 2344, P. O., New Haven, Conn.

IV.

A LIST OF GENTLEMEN WHO HAVE CONSENTED TO ACT AS CLASS AGENTS, IN THE ACADEMICAL DEPARTMENT.

1816 Hon. H. W. Taylor, Canandaigua, N. Y.
1817 Rev. L. Coleman, D.D., Easton, Penn.
1818 Rev. T. L. Shipman, Jewett City, Conn.
1819 Jonathan Edwards, Esq., New Haven, Conn.
1820 Prof. Alexander C. Twining, LL.D., New Haven, Conn.
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1823 Joseph Ripley, Esq., New York.
1824 Hon. E. W. Leavenworth, Syracuse, N. Y.
1825 William Bliss, Esq., Nassau st., New York.
1826 Jared Linsly, M.D., Lafayette Place, New York.
1827 Rev. Robert McEwen, D.D., New London, Conn.
1828 Prof. Oliver P. Hubbard, LL.D., New Haven, Conn.
1829 Rev. Leverett Griggs, D.D., Bristol, Conn.
1830
1831 Hon. Peter Parker, M.D., Washington, D. C.
1832 Prof. Edward E. Salisbury, LL. D., New Haven, Conn.
1833 Prof. George E. Day, D.D., New Haven, Conn.
1834 Henry C. Kingsley, Esq., New Haven, Conn.
1835 Prof. Thomas A. Thacher, LL.D., New Haven, Conn.
1836 Hon. Frederick R. Sherman, New York.
1837 Walter T. Hatch, Esq., Wall st., New York.
1838 Joseph B. Varnum, Esq., New York.
1839 Augustus R. McDonough, Esq., New York.
1840 Prof. J. M. Hoppin, D.D., New Haven, Conn.
1841 Rev. Thomas M. Peters, New York.
1842 Prof. James Hadley, LL.D., New Haven, Conn.
1843 Rev. Edward W. Gilman, Bible House, New York.
1844 Judge Edwin Wright, Boston, Mass.
1845
1846 Frederick J. Kingsbury, Esq., Waterbury, Conn.
1847 Charles F. Sanford, Esq., New York.
1848
1849 Prof. Timothy Dwight, D.D., New Haven, Conn. / Francis E. Harrison, Esq. New Haven, Conn.
1850 Robert Bliss, Esq., New York.
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1852 Charles L. Ives, M.D., New Haven, Conn.
1853 Henry C. Robinson, Esq., Hartford, Conn,
1854 Charles H. Leeds, Esq., New York.
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1864 Frederick H. Betts, Esq., New York.
1865 Payson Merrill, Esq., New York.
1866 Hamilton Cole, Esq., New York.
1867 C. Wyllys Betts, Esq., New Haven, Conn.
1868 Charles H. Farnam, Esq., New York. / William P. Dixon, Esq., New York.
1869 Thomas Hooker, Esq., New Haven, Conn.
1870 Edward S. Dana, Esq., New Haven, Conn.
1871 Howard Mansfield, Esq., New Haven, Conn.

V.

FROM WHOM ARE SUBSCRIPTIONS EXPECTED.

1. From the Graduates of the Academical Department. It is to address this body of friends that representatives or agents of the fund have been formally designated.

2. From those who have been students in Yale College but are not formally graduated. Already some generous subscriptions have been volunteered from such persons.

3. From fathers, brothers, or other friends of deceased members of the various classes, who feel interested in perpetuating the memory of those who are gone.

4. From former students in the professional schools, to whom in due time special circulars will be addressed.

5. From individuals not connected with the college, who are desirous of contributing something to the further endowment of the university, or are disposed to show their personal respect for the Scholar in whose honor the fund has been named. One such subscription of $5,000 has been received.

FISK UNIVERSITY.

[The following additional information in reference to this institution, to which we referred a few weeks ago in connection with the Jubilee Singers, will prove of interest to our readers. There can be little doubt, it seems to us, that the work in which the institution is engaged is an important one and that it should receive the hearty sympathy and support of the friends of education everywhere.—Eds.]

Fisk University was chartered in August 1867, having been before that time a free school for the children of Nashville. The charter entrusts the University to a board of nine Trustees three of whom are chosen anually. The Trustees at present are:

Gen. Clinton B. F. Fisk, St. Louis, *President*,
Rev. H. S. Burnett, Nashville, *Secretary*,
Rev. E. M. Cravath, New York,
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John Lawrence, Nashville, Tenn.

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John J. Cary, " "
Enos Hopkins, " "
Geo. L. White, Nashville, Tenn. *Treasurer*,

This board of Trustees is a self-perpetuating body, and is authorized to control the institution in all of its interests. The charter expressly provides that the privileges of the institution shall be for all without regard to sex or color. It is not exclusively for colored students and has ever been regarded as such by teachers or Trustees. The Trustees are authorized by the charter to confersuch academic degrees as are conferred by similar institutions. Already the work done is crystallizating into University shape. The College Department consists of a Freshmen class of four students, two young men and two young women. The college Preparatory has three Latin classes, two Greek, and two in higher mathematics. For the benefit of those desiring to enter soon upon the work of teaching, a Normal Department presents a course of study which is about an equivalent to a preparatory college course. For years to come, much attention must be given to the preparation of teachers, and no University in the South would be complete without a good Normal Department. There are now sixteen students in Greek and thirty-five in Latin. The Freshmen class of four have taken one term in Geometry and are now finishing the higher Algebra. The strongest efforts are made to induce the most promising of the students to look forward to a college course and many of them are catching the inspiration. Book-keeping is also embraced in the studies of the University and a large class of young men have entered upon the study of that branch with the utmost enthusiasm. Among the older young men, there is displayed the greatest anxiety for a business education. This department is under the the efficient care of Mr. H. W. Hubbard, a young lawyer recently from the North, who teaches at pressnt without salary. Earnest efforts are being made to develop a theological department. A class of five young men is now under the care of Rev. H. S. Burnett of the University. There are daily recitations in scripture, and weekly lectures on theology. The young men take turns weekly in preaching before the class. It is proposed to enlarge the course of study, and to magnify the importance of this work.

The most imperative calls of the colored people of the whole South are for better teachers and preachers than they now have. If Fisk University should do nothing more than train preachers and teachers for the next twenty-five years it would be doing a most noble work. The field yields to none in the land or the world in importance and promise. It would be an endless task to try to give a list of the needs of the University. It needs everything, required by a school of the aims it has in view—lands, buildings, endowments, libraries, professorships, apparatus—in fact, even the most indispensable requisites of a good school—good recitation rooms, good furniture and other school conveniences. Its buildings are of the most wretched character. Not only temporary are they, but wretchedly weather beaten and time worn. While Prof. White has been in the North singing the sweet songs of the olden times to touch the hearts and pockets of the sympathetic listener the shivering students and teachers have endured the chills and cold of the winter and prayed that he might have abundant success for their sakes. The work has just begun. The institution is laid out on a large scale. Its workers have just buckled on the armor for a battle of years. Most of the teachers are graduates from college and are deeply interested in their work. They are :—Prof. A. K. Spence, A.M., late Professor of Greek in Michigan University, Rev. H. S. Bennett, A.M., Mr. A. C. Burr, A.B., Mr. H. W. Hubbard, A.B., Mr. Geo. L. White, Miss Helen C. Morgan, Miss C. E. Burr, Miss M. C. Day, Miss E. C. Cross, Miss Henrietta Matson, Miss S. M. Mills, Miss R. Massey, Miss M. L. Santley.

Some of these have consecrated their lives to this work. Others are in the work only temporarily. The terms of tuition are one dollar a month for the lower departments —and about one dollar and a half per month in the higher.

NATURAL SCIENCE IN THE ENGLISH UNIVERSITIES.

We find in a recent number of *Nature* some interesting information in reference to the study of the Natural Sciences in the Universities of Cambridge and Oxford. At Cambridge the following list of Scholarships and exhibitions are to be offered during the present year for proficiency in the studies mentioned. It will be seen that the amounts offered are by no means inconsiderable, and that the subjects for examination imply considerable acquaintance with the physical sciences. It will also be observed that the examinations are not open except, in one or two cases to undergraduates of the Universities, and in those cases, not to those who have spent over 2 years in them. In general, they seem to be for who are entering upon a course of study at the Universities and as such imply a system of preparatory schools which, compared with ours in this country, suggest a picture not at all pleasant to contemplate. It is proper to add that the exhibitions differ little from scholarships.

In Trinity College there will be offered one or two scholarships or exhibitions of the value of about £80 per annum. The examinations for these will be held on the fifth of April, and will be open to all undergraduates of Cambridge and Oxford, and to persons under twenty who are not members of the Universities.

In St. John's College a scholarship of the value of $50 per annum, will be offered. The examination for this is to be in Chemistry, Physics and Physiology, with Geology, Anatomy, and Botany. It will be held on the 12th of April, and will be open to all persons who are not entered at the University, as well as to all who have entered and have not completed one term of residence. In this college Natural Science is on the same footing with Classics and Mathemetics, both as regards teaching and rewards. Natural Science is one of the subjects of the annual college examination at the end of the academical year in May, and Exhibitions and Foundation Scholarships are awarded to students who show an amount of knowledge equivalent to that which in the Classics or Mathematics usually gains such a reward.

In Christ College one or more scholarships or exhibitions, in value from £30 to £70, according to the number and merits of the candidates will be offered. These scholarships may be held for three and a half years, with the privilege of retaining them three years longer on condition of remaining during that period at the college. The examination will be held on March 19th, and will be open to the undergraduates of this college ; to non-collegiate undergraduates of Cambridge ; to all undergraduates of Oxford, and to any students who are not members of either University. The candidates have the privilege of selecting their own subjects for examination.

In Cain's College a scholarship or exhibition, of the value of £60 per annum will be offered. The examination is to be held March 19th, and is in the subjects of Chemistry, Experimental Physics, Zoology, including Comparative Anatomy and Physiology, and Botany, including Vegetable Anatomy and Physiology. The examination is open to students who have not commenced residence at the University, without limitation as to age. Members of this college have a chance each year to be examined in Anatomy and Physiology for scholarships of the value of £20 each, or more if the candidates are unusually good.

In Kings College an exhibition of the value of £80 per annum is offered. The examination commences on April 9th, and will include physics, chemistry and physiology, with one classical and one mathematical paper, and will be open to all candidates under 20, and to undergraduates of the college of the first and second years.

One or more scholarships or exhibitions of the value of £50 per annum are offered in Clare College. The examinations are to take place March 19th, and are to be in Chemistry, Chemical Physics, Comparative Anatomy and Physiology, and Geology. They are open to students intending to begin residence in October.

In Downing College there are one or more scholarships or exhibitions of the value of £40 per annum. These are awarded for a successful examination in Chemistry, Comparative Anatomy and Physiology. The examinations take place early in April, and are open to all students not members of the University as well as to all undergraduates in their first term.

In Sidney College there are likewise two of the value of £40 per annum. In order to obtain these the candidates must pass an examination in Heat, Electricity, Chemistry, Geology, Physiology, and Botany. The examinations are open to all students who may enter on the college boards before October 1st.

In Emanuel College the scholarships are of the value from £40 to £60 per annum. The examination for one or more of these will be held on March 19th, and will be open to students who have not commenced residence.

In Pembroke College, one or more scholarships or exhibitions ranging in value from £20 to £60 will be offered. The examination, which takes place in June, is in Chemistry, Physics and other subjects, and is open to students under 20 years of age.

In St. Peter's College, one scholarship or exhibition, whose value is to be from £50 to £80 per annum, according to merit, will be offered. The candidate must satisfactorily pass in Chemistry, Comparative Anatomy, Physiology, and Botany. The examination is to take place on April 4th, and is open to students who will be under 21 years of age on October 1st., 1872, and have not commenced residence.

In reference to these examinations it is said that although several subjects are given in each instance it is intended thereby rather to give an option of one or more to the candidates than to induce them to present a superficial knowledge of several. The candidates must also in most cases show a fair knowledge of classics and mathematics. There is no restriction on the ground of religious denomination. It is plain that the study of the Natural Sciences is obtaining a strong hold in Cambridge, for it is affirmed that Trinity College will give, once in three years at least, a Fellowship for Natural Science and most of the colleges are understood to be willing to award Fellowships for merit in Natural Science equivalent to that for which they are in the habit of giving them for Classics and Mathematics.

During the Lent or Spring term of this year lectures will be delivered at Trinity, St. John's, and Sidney Sussex Colleges, on Sound and Light, on Electricity and Magnetism, on Chemistry, on Palæontology, on Geology, on Physical and Structural Botany, and on the Physiology of the Nervous System.

At Oxford regulations have been issued for the guidance of those who would enter the First Honor Examination in the Natural Science School. These provide that the candidates who desire to pass in the general subject of Biology will be expected to show an acquaintance, first with General and Comparative Anatomy; secondly, with Human and Comparative Physiology, inclusive of Physiological Chemistry ; and thirdly, with the general philosphy of the subject. The examinations in these subjects will be both by paper work and practically, and the candidates will be required to give evidence of being competent not merely to verify and describe specimens already prepared for naked eye or microscopic demonstration as the case may be, but also to prepare such or similar specimens themselves. The regulations also give a list of works which are recommended for the use of those who intend to enter this examination. They are on the subjects of General Anatomy, Comparative Anatomy, Human Physiology, Comparative Physiology, General Philosophy of Biology, and Ethnology and Anthropology, and are in the English, French, and German, languages. But in addition to the subjects above mentioned the candidates may offer as

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"Special Subjects" any of the following: Comparative Osteology, the Comparative Anatomy and Physiology of the Organs of Digestion, the Comparative Anatomy and Physiology of the Organs of Circulation and Respiration, the Comparative Anatomy and Physiology of the Nervous System, the Comparative Anatomy and Physiology of the Reproductive Systems, or Ethnology. A candidate who offers himself for examination in a special subject is expectcd to show firstly, a detailed practical acquaintance with specimens illustrating that subject; and secondly, exact knowledge of some one or more monographs treating of it. Excellence, however, in a special subject does not compensate for failure in any essential part of the general examination. The candidates for examination in Geology, Zoölogy, and Botany, are required to exhibit as much practical acquaintance with those subjects as those who offer themselves with any of the special subjects above mentioned. They are not required however to go through the same amount of practical work in the departments of Biology which are not specialy connected with Geology, Zoölogy, and Botany, as candidates who do not bring up any one of these three subjects.

The following lectures on science were to be given at Oxford this term: on Light, by Rev. Bartholomew Price; on Newton's "Principia" and the Linear Theory, by Rev. C. Pritchard; on Experimental Optics, by Prof. Clifton; on the Classes and Orders of Articulated Animals, by Prof. Westwood; on the Geology of the Country round Oxford, by Prof. Phillips; on Digestion, by Prof. Rolleston.

PLAIN WORDS ON COLLEGES.

The following from the pen of the Rev. Alexander Burns, president of Simpson Centenary College, at Indianola, Iowa, puts so much truth in so little space and and has such a hearty earnest ring about it that we cannot forbear giving it to our readers. The article was written for the *Central Christian Advocate:*

The Church must have her colleges. No church can prosper without them. We have started well, but have carried some matters too far. We must have more colleges and universities than we need, more than we are sustaining; some of them are starving, some of them not equal to good preparatory schools, although flourishing such high sounding names. How are they generally started? Many of them merely as speculations. The urgent demands of the times have not called them out, neither have the pressing needs of the Church. It is rather thus: A city has no manufacturing hopes, or commercial advantages. It is not likely to become a railway center, it *will* be an educational point. It begins early, and although it can offer but a few thousand dollars, still as other places can offer no more, perhaps at that time not so much, it is at once presented to conference as a point of marked liberality, and its institution is blessed with a pre-natal adoption and a conference-appointed board of trustees. The few thousand dollars are put into a building, leaving not a dollar for endowment; indeed it often happens that when the building is erected, the subscriptions are all exhausted and a heavy debt rests on the institution. Thus it begins life, the faculty depending entirely on tuition for salary, and the institution staggering under the weight of its debt and its high-sounding titles. Since nothing less than a "college" or "university" is started now-a-days, a catalogue with a curriculum corresponding to its proud title must be published annually. The presidency of this college is offered to some brother educated in the ministerial ranks, to take what salary he can get and let the balance go for the good of the church. This implies that the success of the church implies the success of that particular college and that the brethren who began the enterprise are very eager to sacrifice to that end. Thanks to the fact that the spirit of sacrifice is still well developed in the church, the college is not left long in an acephalous condition.

Now if tuition be all that the institution has, to meet the salaries of the faculty, to provide apparatus, to meet the wear and tear, and to cover incidentals generally, it is very easily seen, that, as a college, it must be the veriest of farces. There is not a college in our land, however old and prosperous, whose income from tuition would pay the salary of a respectable faculty. How then are the faculties of these mushroom institutions made up? Sometimes they will have as many as two graduates, the rest of the faculty may be graduates living in town, who can be put down for subjects not taught in the institution. This is a cheap and convenient way of making a good appearance on the faculty page of the catalogue. A lawyer who would consent to deliver a few lectures on Sunday afternoon, on some department in law, would be a very convenient "professor." The same principle could be easily applied to a minister or a doctor. I am sorry to say it, but I give it as my sincerest conviction that more than their catalogues is necessary to enable a man to understand the real working force of our institutions of learning. But, should the faculty be numerically strong enough, can the conviction be resisted that their number is in inverse proportion to their worth? Every college president finds in making up his faculty, that good men command positions in which their remuneration will be both liberal and prompt. To expect that these institutions should have apparatus either chemical or philosophical, or that geology or mineralogy would be illustrated by appropriate specimens would be the height of folly. They necessarily fall far below good graded schools in this respect. Yet, as soon as they are opened, their praises are sounded and it is considered almost treasonable to patronize any other seminary, however excellent. In order to get students, children are admitted that should be found in the lower classes of the graded school, and since the airs of these institutions are all collegiate, the elementary instruction of these children is fearfully neglected. Latin, Greek, mathematics, seminary or collegiate work, is more interesting to the teachers; hence classes are formed eagerly in these branches, while spelling, reading, arithmetic and geography, common school studies generally, are totally neglected. I have known some young people to be almost ruined in their education by leaving the common school for a seminary or college.

Such institutions are not needed by the church. They are neither profitable nor creditable to her; she ought not to allow her good cause to be insulted, and her good name to be profaned by fostering such excrescences, in order to enhance the real estate of some unfortunate village. If the interests of religion or education demanded such auxiliaries, or if when begotten and adopted they were of any practical value, they might be tolerated and even encouraged, but if the mission of many of them be not exhausted in perpetually draining the purses of our people and testing the patience of conferences with platitudes on "The Value of Christian Education to the Church," it is vain to seek for it. It is not so difficult however, to discover the mischief perpetrated by them in the name of education and religion. Springing up where they are not needed, they are often found rivals of the common school, and as parents are induced to withdraw their children and place them in these church institutions they generally lose their interest in the common school, and, when their vote is consulted, refuse their consent to the appropriations necessary to their success. No man can be innocent and withdraw the sympathy of the people from the common school. No better proof could be given that the church institution was out of place than the fact that it had to deal with common school material. I think it is also capable of demonstration that, for their own specific work the common school is the preferable place. It might also be asked if it was in accordance with honor or Christian economy to induce our people to pay tuition to a church institution, when by local taxation they have already provided for their children's education.

My next objection to these unendowed colleges and seminaries is based on the grievous imposition practiced by them on the young people they allure to their halls. Their poverty renders it impossible for them to do justice to the student. It should be known by every young man or woman seeking an education that an unendowed college can not help being an imposition. It may display a liberal curriculum. It may have commodious buildings and even be entirely free from debt; still its chairs are filled at starvation salaries, and its students are unblest by either library or apparatus. It often occurs that in the filling of a chair the chief question is, Who will take the place at the salary? The average salary paid in many colleges is much below what is paid to the principals of our graded schools. Many a professor would gladly resign his chair for the principalship of a good graded school. Men of high accomplishments as teachers, or specialists in any department, need not be sought in such institutions. Their services will command respectable salaries elsewhere, and thither they gravitate. There should the student go also. No amount of rhetoric regarding cheap living, moral surroundings, or loyalty to home institutions should induce a young man to spend his college years amidst inferior surroundings. If founders or managers of colleges will allow them to be destitute of attractions and the proper appliances for conferring respectable scholarship, let them be greeted with empty halls. We believe that the times call for plain talk on this matter; we fear that the interests of the young and the church have been sacrificed for very questionable results; that the cause of education has been wounded, grievously wounded, by men professedly enlisted in her behalf. As one who sets a very high value on young life, I can not help warning our young people against the folly of wasting the precious years that above all others should shape their future lives, amidst developing influences of a low order. You will graduate but once; graduate from the hands of men of liberal scholarship, men of strength and culture. True, you may not be much even then, but you will have the satisfaction of knowing that you have given yourself fair play.

In closing this article let me assure my young friends that our church has colleges equal to the best in our country, their chairs filled by men of acknowledged scholarship. Thither direct your steps, till those who would invite you to nearer halls can point to their respectable equipment as the result of a liberal endowment. Consult your own highest interests and rest assured that you will serve best the cause of God and the church by so doing.

I reserve for another article, a few more plain words on the same subject. ALEXANDER BURNS.

Simpson Centenary College, Indianola, Iowa.

AMHERST COLLEGE.

ITS APPEAL FOR AID.

From the correspondence of the *Springfield Republican* of March 8th, we learn that on Thursday, March 7th, the Committee on Education in the Massachusetts Legislature heard the appeal of the friends of Amherst College for an appropriation of $100,000 from the State Treasury. President Stearns of the college made a statement which we print below in full. A letter from Gov. Alex. H. Bullock commending the scheme and offering arguments in its favor was likewise presented. Mr. Gillett, of Westfield, Mr. Edwards, of Boston, and Dr. Allen, of Lowell, members of the board of trustees were present to enforce the claim. Mr. A. B. Ely, and Mr. Bowles, of Springfield, one of the State trustees, made addresses urging the appropriation. Mr. White, secretary of the Board of Education and treasurer of Williams College, spoke on the general subject and said that since 1850, the state had given $1,000,000 to various educational institutions in the eastern part of the State, of which $600,000 had gone within the last ten years to Tufts College, to the School of Technology, and

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to the scientific department of Harvard University. The treasurer of Amherst, Mr. Dickinson, presented some information in reference to the finances of the college. He explained that its funds of all kinds amounted to about $500,000, but of this only $300,000 were dedicated to the general educational expenses; others were set apart for the library, for special scholarships, or for the benefit of ministerial students. The total annual receipts of the college were about $23,000 in term bills and $20,000 from funds, and with miscellaneous receipts made a total of $44,000, as against, for the last year, $51,000 of expenses. The statement of President Stearns was as follows:

Amherst College is in pressing need of pecuniary assistance. Already fifteen thousand dollars or more in debt, it is wholly unable, with the strictest economy, to meet necessary current expenses. It is supposed by the treasurer that the deficit for the coming year will not be less than six or seven thousand dollars, though we might hope, by injurious economy to keep it considerably within these bounds. The debt has been the result of no extravagance, nor of unnecessary improvements. It has been occasioned chiefly by repairs which decency or safety absolutely required, and increase of teachers' salaries, which deterioration in the value of money made indispensable, and without which increase the best officers could not support themselves or be retained.

With an abundance of hard-working men among the graduates, who can give in a record of service for church and State, not second to that of any college of similar age and numbers in the country or in the world, Amherst has but very few wealthy graduates to whom application can be made, in time of pecuniary need, with any hope of success. Nor are there any known sources from which relief, or power to carry on the work of the institution, can be obtained, except the Legislature of the commonwealth.

The college is more emboldened to make this application from the assured belief that impartiality and justice require that State assistance should be given it. The college has nothing to say against grants to other institutions. Its friends have always favored them, and from their interest in general education and in the commonwealth could not do otherwise. They feel, however, that in the bestowment of legislative favors, Amherst College has been too much overlooked. We would not mention other institutions in the way of comparison, were it not necessary to a proper statement of the case. The other colleges were assisted at the start. Harvard, in the early days of the country's poverty, received £400 at the start. Williams, in 1793, £1200 at the start. Tufts, thirteen years ago, at or near the start, $50,000. Amherst, nothing at all at the start. For the first 25 years of its existence Harvard was constantly cherished by the State; the amount given might probably be ascertained, though we have not the figures at hand, but between the years 1814 and 1824 it received $100,000. Recently (since 1861) Harvard or the University at Cambridge has received more than $300,000. Williams College, besides the £1200 at the beginning, received the grant of a township of land in 1805, and a second township of land in 1809; between 1814 and 1824, $30,000; in 1859, $25,000; in 1868, $75,000, making in all $130,000, two townships of land and £1200. Amherst, in 1746, received, $25,000; 1859, $25,000; 1863, $2,500, making in all $52,500. In 1868, on application to the Legislature, Williams College received, as we said, $75,000, and the university museum $75,000. The next year Amherst College applied for assistance and received nothing. Does not equality and justice require that further legislative aid should be given to Amherst?

This, then, is our first reason why we are emboldened to apply to the Legislature for aid. A second is, that while the State has done so little for Amherst College, the college has done a great deal for itself. It seems to be the policy of the State to help those who help themselves. Amherst College has certainly helped itself. During the 50 years of its existence it has raised for itself, we know not exactly how much, but certainly more than a million of dollars. Many of the trustees and friends of the institution, especially members of the faculty, in former days have made almost incredible efforts to sustain it. The salaries of the officers have always been small, and sometimes exceedingly small, and never have afforded them full compensation. The present officers generally are not receiving one-half of the market value of their services. By great exertions, however, and munificent endowments of friends, the college has become strong—in some departments very strong,—and is better able to give the best possible education than ever before while in the department of the general treasury it sorely needs help. If it is still the policy of the State to help those who help themselves, it would seem that Amherst College might expect consideration.

A third reason which encourages us to ask help of the Legislature is that, while the state has done so little for the college, the college has done a great deal for the state. First, in educating large numbers of students, now nearly two thousand, chiefly from what are called the working classes—graduating them not only into the professions, but into the business of teaching in public schools. More than a thousand, some say more than fifteen hundred winter schools have been taught by the undergraduates of Amherst, and there are now, besides 175 ministers, 63 lawyers, 43 physicians, and business men we know not how many, 85 graduates of the college teaching permanent schools in the state. Second, in furnishing an education at so small a cost and with such liberal aid to indigent students. The whole amount of term bills, including tuition, charges for library, etc., is at the present time only $90 per year for each student, which is but a small portion of what it costs the college to give them their education. We would have it particularly observed that the college, during the past fifty years, has contributed toward the support of indigent students, in money or credit on term bills, an amount nearly three times as great as all it has ever received from the state. Besides canceling term bills or making discounts upon them where, without undue pressure, students could not pay, the college has given in money, according to the treasurer's books, to students needing charitable aid, $132,496.94; and according to estimates made with some care, it is believed that from $20,000 to $25,000 more have been collected and given to the same class. In other words, while the college has thus given more than $150,000 to the public for the education of its students, it has received only $52,500 from the Legislature in return. Third, the college has helped the state in the large numbers which, in common with other institutions, it gave up to the public service in the recent civil convulsion—many of her young men, not only of graduates but of undergraduates, in consequence of their self-sacrificing devotion to the country and the state, now sleep in soldiers' graves. If the colleges give up the lives of their professors and their students, in the time of the state's agony, may they not expect help in return, in the time of the state's prosperity? Fourth, the college has helped the state in its friendly offices for the newly-established agricultural college, which is in some respects peculiarly the college of the state. Amherst college, though it has no power or influence over this younger institution, has encouraged and cherished it from the beginning, offering it not only the free use of its cabinets, library, recitation, rooms, hall, etc., but procuring for it, through immediate friends, large pecuniary contributions. Fifth, while the state has done so little for this college, the college stands in a peculiar relation to the state. It was a condition of its charter that the first five vacancies in the board of seventeen trustees should be filled by the Legislature, and that these places should be kept filled by election in the Legislature forever afterward, as they always have been to this day.

It may not be improper to add here that the alumni of Amherst, 700 of whom were present at the semi-centennial commemoration last summer, all feel that the college is doing a great work for the state and for mankind, especially in the promotion of civil liberty, good order, good morals, education and religion, helping to secure peaceful homes, security of property and the general good; and many of them earnestly inquire why such an institution is not more perfectly cherished by the commonwealth, which it delights to adorn? And why is it, we may add, when eastern Massachsetts has received such liberal endowments and western Massachusetts been generously regarded, great central Massachusetts has been subjected to comparative neglect? There are no institutions in the State, which are doing a more important work for the country, than the several educational institutions of the Connecticut valley. Nor is it presuming to say that Amherst College is the mother of them all.

We are aware, when we ask for a contribution in money, that the State is not free from debts; but we are equally aware that the State has abundant means of paying its debts whenever they become due. We are also aware that some are beginning to speak in opposition to special grants on general principles, but if that is to be the policy of the State, let not special grants be wholly denied till institutions, which have failed to receive their share, have been properly remembered. We know, too, that many judicious men have been greatly shocked by the manner in which public funds have been squandered for denominational purposes in one of our largest states; but that day of corruption, we believe has gone by. Or if there were any danger that such influences would prevail in Massachusetts, and that public moneys would be given to the enemies of civil and religious liberty, would it be good policy to keep those institutions poor and crippled, which work for public freedom and education, when it is in the power of a true republicanism to strengthen them? Shall we leave them to be found weak and inadequate, when the day of evil comes, if come it must, rather than powerful to aid the country, in case of threatened calamity?

In closing these remarks, we cannot help reminding the committee that Massachusetts covers but a speck on the geographical area of the country; that her political power and influence will depend upon the education and virtue of her inhabitants; that if ever we go down as the great educating section of the country, we shall go down altogether as to good influence in it. While we keep up and improve the common schools as we should, those higher institutions on which the prosperity of the common schools greatly depends, and which the constitution requires us to assist, must also be cherished. The colleges are all children of the State. Amherst would only ask for a reasonable share of the maternal consideration.

WILLIAM AND MARY COLLEGE.

During the war the college of William and Mary was destroyed by fire, and since that time several attempts have been made to obtain from Congress reimbursement for the damage done. The history of the destruction as near as we can get it is as follows: Williamsburg, the site of the college, was regarded as the key to the military position on the peninsula formed by the James and York rivers. During most of the war, that is from May, 1862, to its close, Williamsburg was in the possession of the Federal troops. On the ninth of September, 1862, however, the place was attacked by a force of Confederate cavalry who obtained possession of the city and held it until 11 o'clock of that day. Upon evacuation by the rebel cavalry and the return of the Union troops, a body of stragglers from the United States forces who were drunken. disorderly, and insubordinate fired and destroyed the college buildings with the library, apparatus, furniture and other property therein belonging to the institution. And at different times after

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wards during the war, other houses and property of the college and connected therewith were destroyed by the Union forces. In view of these facts the committee on education and labor have reported a bill to Congress to reimburse the college for the damage done. The case for the college was very forcibly and eloquently stated by Hon. Geo. F. Hoar, of Massachusetts in a speech in the House of Representatives, Feb. 9th, from which we take the following extracts. It may be said that the opposition to the bill is based chiefly on the precedent which it would establish and the amount which would be taken from the public treasury if that precedent should be followed in other cases. After giving a brief history of the destruction Mr. Hoar proceeds as follows:

It cannot be likened to the common case of property destroyed by the incidents of war and situate on hostile territory. In such cases, ordinarly, the loss must rest where it originally falls.

This spot cannot be claimed to have been in any sense hostile territory. Williamsburg is, as I understand it, partly within the county of York and partly within that of James City. York county was never deemed hostile territory after May, 1862, and was expressly excepted from President Lincoln's original proclamation of emancipation. It formed a part of the State of Virginia, which had for a time its seat of government at Alexandria under Governor Pierpont; was represented in Congress, and gave the necessary constitutional assent to the separation of West Virginia. The college is, I think, a little over the line in James City, but on land we held, and coming in every respect within the same principles as were applicable to the county of York. The building was in our military occupation. A court-martial was going on the day before, and its rooms contained hay and other stores and cavalry equipments.

* * * *

Now, Mr. Chairman, I put this case on three independent grounds. In one aspect, if the House shall agree in establishing it as a precedent, it might involve claims not exceeding $100,000 or $200,000 in all for destruction of a like nature. If, on the other hand, the judgement of the House rests the case on either of the two other grounds which I shall state, it stands by itself, a precedent for no other case that can arise.

Now, the first ground is this. Endowed institutions of learning, established by funds given for public purposes, are excepted and secured from injury by the law of nations. Whenever any civilized nation has, either by the wantonness or by the necessary act of its own troops not in actual battle, violated the sancity of this class of institutions, no legal claim arises, no claim under the law of nations arises; but often the most highly civilized nations have respected their moral obligations by repairing the injury where they could at their own expense. Now, if we recognize that doctrine, we may possibly be called upon to pay for other destruction. President Ewell, who has made some inquiry, thinks that a sum less than $100,000 will cover all other like cases throughout the South. I think the amount will be larger than he estimates, but that it will not be large. This is a privilege that never has attached to the church, which never has been attached to property held and owned by the State for public educational purposes. It extends only to that class of institutions endowed by trust funds for purposes of education. This is the first ground on which I place this bill.

The second ground is that this was a building which we had taken posession of; it was on our territory; we were using it for our military purposes, and we had excluded its natural and legal guardians, and therefore we are bound to restore it to them in the same good order and condition in which we received it.

And the third ground and the strongest is this. Excepting the battle-fields consecrated by the blood of our patriots, this is one of the five or six most sacred spots in our domain. It stands in this respect to be classed with Mount Vernon and the tomb of Washington. If wantonly or carelessly the American troops had injured Mount Vernon, or the tomb of Washington, I do not believe this House would meet the request for its restoration by saying that the same principle would compel us to repair every grave-yard or every private habitation injured throughout the entire South during the war.

The case, as has been said, does not constitute a legal claim upon the Government. It stands upon this principle. To spare, and if possible to protect institutions of learning, such as college buildings, libraries, or collections of art or science from military injury, is an obligation which the most highly civilized nations impose upon themselves. Whenever, by accident or design, these institutions have been injured in war, Such Governments should desire if possible to make reparation.

History contains many conspicuous and interesting examples of this generous recognition. At the time of the battle of Princeton, the Americans, in dislodging the British from the college building, fired a cannon shot through the walls. Washington, in order to make good to the college the damage sustained by the fire of his troops, made the trustees a present of fifty guineas.

In the eloquent letter of Colonel Hughes in behalf of this claim, we are reminded that "during the war of Independence the buildings of William and Mary were repeatedly occupied by British troops. They were in every instance respected as sacred to the cause of letters and left intact. After the close of the war, Louis XVI, the ally of America, caused the buildings, accidently destroyed by his troops, to be replaced and every injury to be repaired, thus doing royal homage to the sacred cause of learning."

The British troops under Tryon, when they occupied New Haven in 1779, spared Yale College, although its students in arms harassed their approach. But President Clapp's manuscripts were carried off. President Stiles addressed a letter to General Tryon, in which he represented that "a war against science had been reprobated for ages by the wisest and most powerful generals. The irreparable losses sustained by the Alexandrian library and other ancient monuments of literature have prompted the victorious commanders of modern ages to exempt these monuments from the ravages and desolations inseparable from the highest rigor of war." Gen. Tryon replied to this letter that "disposed by principle as well as inclination to prevent the violence of war from injuring the rights of the republic of learning, he very much approved of the president's solicitude for the preservation of the manuscripts," and caused every effort to be made for their discovery and restoration.

After giving other historical examples and stating that William and Mary lost a great part of her revenue by the cession of the great North Western Territory, the speech concludes as follows:

If civil strife or foreign war shall ever again disturb our peace, every college in the land will be safer if Congress shall to-day make this solemn recognition of the rule we invoke. To deny it is to deny to the college of Washington the justice he did to Princeton. To deny it is to deny to Virginia the generous treatment which Connecticut received from Tryon, Philadelphia from Croke, and William and Mary herself from Louis XVI. The hallowed associations which surround this college prevent this case from being a precedent for any other. If you had injured it, you surely would restore Mount Vernon. You better honor Washington by restoring the living fountain of learning whose service was the pleasure of his last years than by any useless and empty act of worship or respect towards his sepulchre.

SENATOR FERRY ON THE AMNESTY BILL.

In a speech of Senator Ferry of Connecticut upon the amnesty bill, and the amendments to it offered by Senators Sumner and Carpenter, the following passage occurs. It will be remembered that the amendments tacked on to the amnesty bill by the senators mentioned provided for the complete equality of the colored race in all places. In order to accomplish this, provisions were introduced which in the minds of some encroached upon local self-government, or in other words the rights of the States, to regulate their own affairs. In accordance with this view, Senator Ferry spoke as follows in reference to governmental control over educational institutions:

The amendment next provides that trustees, commissioners, superintendents, and other officers of the common schools and other public institutions of learning in the several States, shall be forbidden to make any discrimination on account of color, and be punished by fine and imprisonment or by civil action for damages, at the option of the person who claims to have been injured. While so far as the State which I in part represent is concerned this is a matter perfectly immaterial, for the children dwelling in that State, whether white or black, ever since my remembrance, have been accustomed to attend the same schools, and I never knew or heard of a denial of the privilege either by law or custom, yet at the same time with respect to our school system we are tenacious; with respect to our rights over that school system we are tenacious. It has been our pride from our foundation as a Commonwealth. Our fathers began by making provision for the education of every child, made no discrimination of color, but provided for the education of every child within the township; and as generations have passed away and we have seen the blessed influences of our educational system upon ourselves and upon those who have gone out from us to build up communities in other portions of the land, we have grown still more and more tenacious of that system, and of our power of control of it as we ourselves may see fit. And we do not like that Representatives from distant States should assist us in the control of our school fund, or in the distribution of the school moneys provided for the education of the youth of the State. It is because this amendment of the Senator from Massachusetts exerts Federal authority over the schools and the school officers of the States that the provision which he has placed in it is most objectionable. I am not certain that the same general rule of expediency extends to all the States of the United States, but this I am certain of, that if you give to the Federal Government power to interfere in the regulation of the schools of the different States upon one subject, I do not see how you are to restrain that power in reference to other topics relating to education; and indeed we see and hear now continually more and more of efforts made to bring the Federal Government into direct control of the school systems of the States.

An Arctic Stove.—When the last German Arctic Expedition started for the North Pole, it carried a newly invented stove, by Professor Meidinger, which would have rejoiced the heart of Count Rumford, and has proved an invaluable invention. It is of iron, having a double wall with a space, about two inches wide between the outer and inner walls, to which the air has free access above and below. The cold air being always at the bottom, and the warm ascending, it follows that all the air in the room is being constantly forced through the space between the outer and inner covering of the stove, or what is the same, is being constantly heated. The coal is put in from the top, and fills the whole inside of the stove, which is about six feet high, more or less. It is then lighted at the top and kept burning by the draught created by valves inserted both into side walls and at the bottom of the stove. The valves opened, the greater the heat, so that the temperature can be easily regulated. The expense is a third less than that of an ordinary German stove, and the new invention, in an elegant shape, is rapidly finding its way into dwelling houses.

Punctuation.—There is great carelessness, if not ignorance, in the matter of punctuation, whereby much misunderstanding arises. Many persons even emulate, the ancient writers in leaving out all marks or divisions of any kind, like the barber who wrote over his door, "What do you think I shave you for nothing and give you a drink," which was interpreted by some to imply an easy shave and a morning tipple to be got for the asking. Such, however, was not the meaning of our worthy tonsor, who, on being arraigned before the magistrate for what seemed a clear case of deception, exclaimed, "What! do you think I shave you for nothing and give you a drink?" Points were first used by Aristophanes, a grammarian of Alexandria, 200 years B. C., but were not generally used until the modern system was introduced at the beginning of the sixteenth century by a learned printer of Venice named Manutius. Punctuation not only serves to make an author's meaning plain, but often saves it from being entirely misconceived. And there are many cases where a change of points completely alters the sentiment. The following anecdote of an English statesman, who once took advantage of this fact to free himself from an embarrassing position, is an amusing illustration:

Having charged an officer of the government with dishonesty, he was required by Parliament, under a heavy penalty, publicly to retract the accusation in the House of Commons. At the appointed time he appeared with a written recantation, which he read aloud as follows: I said he was dishonest, it is true; and I am sorry for it." This was satisfactory; but what was the surprise of Parliameut the following day to see the retraction printed in the papers thus: "I said he was dishonest; it is true, and I am sorry for it." By a simple transposition of the comma and semicolon, the ingenious slanderer represented himself to the country, not only as having made no recantation, but even of affirming his charge.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, MARCH 16, 1872.

THE friends of Yale will be gratified to know that the Woolsey fund, some statements respecting which are made in another column, is making steady progress, that there is every reason to hope that the half million desired will be raised in due time. Meanwhile it ought to be regarded as a duty, not less than a pleasure to contribute to the fund. The plan of pledging to give a certain amount every year is meeting with favor, and seems to commend itself to the consideration of all. There are few graduates of Yale, who cannot for the love they bear to their alma mater, add five dollars a year to her treasury.

THE proposition to devote the Chinese indemnity fund to the founding of a college in China, for the purpose of educating interpreters, etc., has assumed, the form of a bill in the Congressional Committee on Foreign Relations. Mr. Jones the most earnest worker in the project, and who displays very praiseworthy energy, has recently been twice before this Committee, the last time last Tuesday. The bill as now before the Committee provides, that the principal of the fund shall be kept intact by the Secretary of State and be invested in government securities. The income which amounts to about $27,000 a year is to be devoted to the purpose desired. Congress is to appoint trustees who shall control this sum and have power to arrange all details and manage the affairs of the college. These trustees are to give a report from time to time to the president of the United States. The expenses must not exceed the income from the fund. At the meeting last Tuesday Mr. Jones read a letter from Dr. J. Wells Williams of Peking, which declared that $20,000 would purchase ample ground and buildings with which to begin the work. We can only hope that the matter will be pushed forward as rapidly as possible.

A RECENT number of the New York *Observer* in referring to the rumored attempt of certain students in one of the New England Colleges to obtain a decision from the courts as to whether the college authorities have a right to compel the attendance of students who are of age upon religious services, says :—"Wise students they are indeed. Their coming to college is voluntary. They can go away if they do not like the rules. The college has no power or desire to coerce attendance. It merely says—'If you stay here you must do as we do; if you are not willing, take yourself away.' And in our judgment, the best thing they can do is to take themselves off." While now we would express no opinion upon the question at issue we would simply remind the *Observer* that the same reasoning would sustain any regulations, however unreasonable or unjust, and that there seems to be a higher principle which applys in such cases, viz., that no body of men who happen temporarily to be in charge of a great educational institution have any right to so hedge about its advantages with obnoxious regulations as to render it impossible for any one to enjoy them and at the same time maintain his self respect.

THE question of the removal of Trinity College from its present site is still exciting earnest discussion. On Saturday March 9th the resident trustees, who are a majority of the board, voted at a special meeting to recommend to the full board that the present site be sold for $600,000. On the Monday evening following the city government took action upon the proposition. The subject was earnestly discussed, and resulted, in the board of alderman, in an acceptance of the proposition the vote standing 7 to 7 and being decided by the Mayor in the affirmative. In the council 13 to 9 were in favor of submitting the question to the people, and a resolution to that effect was laid on the table to be perfected. And so the matter stands. Meanwhile the local press of both Hartford and New Haven are discusssing the question pro and con. The idea of a removal of Trinity to New Haven is rarely touched and seems to be lost sight of in the more important questions as to whether Hartford will buy the present site. There seems however to be a tacit understanding that if Trinity removes from her present position it will be to some other in Hartford. We cannot but regret this, both on account of Trinity and Yale, for, as it seems to us, a removal of Trinity to New Haven would be advantageous to both.

THERE can be little doubt, we think, that the greatest present need of the higher educational interests of the country is better preparatory schools. We may strive as hard as we will to perfect the curriculum of studies in the colleges and universities, and expend our energies in forming and furnishing means for post-graduate courses of study, but the effort is unavoidably more or less abortive from the failure at the other end of the course. It may seem strange, but we have no doubt that at least one half of the first year in college is occupied in bringing the students who come from different preparatory schools up to a common level. Let the entrance examinations be as strict as they may they cannot obtain the same culture in all who come. And there seems to be no remedy for this until the preparatory schools receive more attention than they now get. We are glad to see that the subject is being agitated in certain quarters. Dr. Reid, president of the State University of Missouri, has proposed the following plan for bringing the University into closer relation to the public schools of the State :—"1st. The University should take up the studies exactly where the high schools of the State leave off; and to this end there should be laid down by law a course of study for all high schools in the State, which they should be required to follow. 2d. There should be some change in the way of appointing State students to the University. 3d. A system of public libraries in all parts of the State should be adopted and kept up for the use of every country school." Whether this plan or some other is followed there can be little doubt that the subject of the dependence of the higher educational institutions upon the lower schools, and the connection between them should be thoroughly agitated and an improvement brought about. While advanced study and higher education is receiving so much attention, let not that which makes the latter possible be entirely neglected.

STATE AID FOR COLLEGES.

The recent application of the college of William and Mary to Congress for reimbursement for losses sustained during the war, and the appeal of Amherst college, to the legislature of Massachusetts for a gift of $100,000 from the public treasury of that state seem to bring into notice the question of state aid to institutions devoted to the higher education. In the case of William and Mary, the college was destroyed by the Union soldiers, seemingly without any just cause or provocation. The college, it is claimed, was, during nearly the whole war, within the union lines and on territory which was regarded as still under federal control, it having been excepted from the territory declared in rebellion by presidential proclamation. But the loyalty of the institution and the territory was not regarded as sufficient to warrant legal claim for damages and so the success of the appeal rests entirely on the generosity of Congress In the case of Amherst the appeal for aid is based on several grounds, prominent among which are the fact that the college is in debt, with a prospect of a continued increase in the debt unless aid be given; that other educational institutions in the State have received much greater help than Amherst, and fairness requires that she should now be assisted; and that the College has helped the state, by educating her sons, by helping indigent students, and by assisting in various ways the State Agricultural College.

Waiving now any discussion of the claims of these two institutions for aid, except to say that there seems to be force in the appeals and that they meet with our earnest sympathy, even if they do not receive the approval of our judgment, we will proceed to discuss briefly a single thought connected with the general subject. It is of course impossible, in a single article, to follow out all the thoughts suggested by the question, whether these and similar applications ought to be granted, in other words, whether institutions devoted to the higher education which may meet with misfortune, or from any cause be in want, should receive pecuniary aid from the state. There are involved in its thorough discussion a consideration of the true function of government; its relation to the education of the people; whether if the state aid or even establish common schools it should go farther and bestow assistance upon colleges and universities; the settlement of that dificult question, how far the state must educate the people for its own safety; the question of aid to denominational institutions, and kindred topics either more or less remotely connected. We shall therefore confine ourselves to the development of a single thought the relation of aid to colleges to subsides in general.

There are those who do not hesitate to class all such applications, especially as that of Amherst, as appeals for subsidy and treat them with unqualified disapproval, on the general principle of opposition to subsidies, a principle which is worthy of all commendation. But, as it seems to us, these opponents of subsidy in their haste overlook a very important consideration. Their mistake arises from considering all appeals to the public treasury for aid as subsidies, or if the definition of the word be cited as excuse for such consideration, from treating all subsides as blameworthy. But subsidies as we understand them are grants of money or other assistance to some private enterprise, or to some enterprise which, having the public good in view as one of its advantages, is nevertheless managed for the ultimate benefit and profit of the managers. An example of such a subsidy would be a land or money grant to a railroad company, and it might be defended on the ground that it is the duty of the government to foster internal improvements. And this principle is based on the broader one that government should foster whatever tends to benefit the people in general, or, going back a step farther we may say, that what is derived from the people by way of taxes should be expended for their benefit.

But educational institutions differ from private enterprises of this kind in that they are not private in the same sense. They are like them in as far as both are designed for the general good, but they differ from them in this radical respect, that colleges and universities are not founded or managed for the purpose of making private fortunes. Railroads are a great public convenience, one of the marks of the civilization of a country, but the ultimate aim in view in their management is that those who control them may amass fortunes. But in great educational institutions the case is entirely different. These institutions are not founded or managed for the sake of making money. Their aim is far different and there are a number of considerations which go to show the truth of this assertion. In the first place great educational institutions can hardly be said to be conducted on sound business principles, not meaning by this, however, that the pecuniary affairs of colleges and universities are managed unskillfully or dishonestly. But in common business transactions an

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adequate return is expected for every outlay. In the case of colleges however, this is not so. The education of every student costs at least double the amount returned by way of tuition. There are not two colleges in the country in which the income from the students will pay the cost of keeping the college going. And even with the endowments which many institutions are fortunately possessed of they are continually running behind.

Again, the meagre salaries paid college instructors,—in many cases mere pittances, compared to what they might earn in other capacities, and the impossibility of giving more with the present income of most institutions of learning, shows that colleges are not money making institutions. If such was their aim, surely their employes would be better paid. Still further, as evidence on this point may be cited the fact that no one can be said to own a College. It does not belong to the corporation or trustees who manage its affairs, nor to the faculty who for the time occupy its chairs. When those who are active in its control pass away they can not dispose of it as of other property. It contiually remains, a monument of beneficence and passes into the control of those who in their turn shall leave it to those who come after them. We conclude therefore, that educational institutions can not properly be classed with railroads and other such enterprises which most commonly received subsidies from the public treasury, and that in this case one important objection to subsidies in general does not hold good. And while we are not satisfied that the principle of giving money from the public treasury even to colleges is a safe one, we still think that if any enterprises are to be favored in this way, it should be the educational institutions of a country.

SCIENTIFIC.

Zinc Light.—By digesting metallic zinc in iodide of ethyl, we obtain a volatile liquid which takes fire spontaneously in the air, and is known under the name of "zinc ethyl." It can be distilled in an atmosphere of hydrogen, and if this gas be made to pass through the liquid it will carry off some of the zinc-ethyl, and when ignited will burn with a magnificent white flame. It is probable that ordinary illuminating gas would answer as well as hydrogen for this experiment. The light produced in this way can be employed to take photographs, but its actinic properties are not equal to the effects produced by burning magnesium.—*Scientific American.*

Metallic Spectra.—M. Robert Thalén has communicated to the Royal Society of Upsala, a memoir on the characteristic metallic lines of the spectrum, especially with reference to their wave-lengths. As ordinary spectroscopes do not give entirely accordant readings, varying as they do with temperature and other incidental circumstances, it is necessary in all cases to make the solar spectrum the basis of reference. Angstrom's "normal solar spectrum" was, accordingly, the normal starting-point of the author's researches; and, with this as his guide, he has succeeded in constructing a chart, which gives, in millimeters, the wave-lengths of metallic lines within about 0.0000001 of their true value. Forty-five metals have been thus investigated, and the spectra mapped. Of these, the following give lines coinciding with those in the solar spectrum; Sodium, calcium, magnesium, iron, manganese, chromium, nickel, cobalt, and titanium. The discovery of the last-named coincidence is due to M. Thalén himself.—*Scientific Press.*

Albumen from Fish Eggs.—The great demand for albumen for manufacturing purposes has led to the attempt to obtain it from every imaginable source, hens' eggs being of course the most simple, but at the same time the most expensive, and entirely insufficient to afford a supply. An experiment has recently been made by Dr. Grüne to utilize fish roes for this purpose, these being obtainable from many kinds of fish in immense quantities, and being usually thrown away. When entirely ripe, these roes are capable of furnishing a large amount of albumen, and in this condition are to be stripped from the investing membrane, and made free from adhesion as much as possible. They are then placed in a sieve, rubbed with a stiff brush so as to break up their contents and allow the albumen to pass through. This is to be washed with water, to which one part of ammonia in three hundred is to be added, so that the albumen adhering to the sieve shall be carried through. The solution thus obtained is then to be placed in high vessels and allowed to stand for some days, and when it becomes clear the albumen can be poured off into flat dishes, and evaporated in well ventilated rooms. The cleansing is said to be facilitated by passing through coarse sand or powdered glass. The best roe for this purpose is that of fresh water fishes, such as pikes, but the albumen can be obtained from any species. If the roes have been kept too long, of course there is a tendency to decomposition, accompanied by an unpleasant smell, but this is not at all appreciable if the labor be prosecuted at the proper time.—*Phil. Ledger.*

Natural Gas Fountains.—In a paper recently read before the N. Y. Association of Practical Engineering, Prof. H. Wurtz gave the following account of natural gas-wells:

It appears that in the State of New York alone there are three great belts of gas-bearing formations, each two hundred miles long, an average of ten broad and having a thickness estimated at one hundred feet. This would support three thousand wells, yielding gas equal in heating power to fourteen tons of anthracite daily, for one hundred years. Similar formations are found in Canada, Ohio and Pennsylvania, but perhaps the most important is the immense area of the Devonian and Silurian basins of the Great Lakes and the Mississippi Valley, where there are five, perhaps six, great beds of such rock.

Some of the gas wells give a most enormous quantity of gas. One on the Little Kanawha, nine hundred feet deep and four-inch bore, has a two-inch pipe leading from it a distance of a mile, where it feeds the furnaces of twenty-eight steam boilers of twelve-horse power each, besides fifty stores and a large number of jets for illumination. There is one in Ontario county, N. Y., 500 feet deep and five-inch bore, which gave a flame thirty feet high, the flow of gas being about five cubic feet per second, or upwards of 430,000 per day. The gas is nearly equal to six-candle power. At Venango, Pa., gas rises from wells under a pressure of two hundred pounds to the square inch, and instead of being burned under a boiler is run direct into engine cylinders in lieu of steam. At Erie, Pa., wells can be sunk for $1.500 which will give gas enough, burned in the furnace of a steam generator, to produce 200 horse power.

Hydramyl.—Dr. Richardson of London has been investigating a new anæsthetic, to which he has given the name of *hydramyl.* An account of his experiments is given in the "Half-Yearly Compendium of Medical Science, Part IX.," (just published) which will be found interesting reading even to those who never expect to undergo any more painful surgical operation than the dislodging of a tooth or the lancing of a boil. Dr. Richardson was in the habit of using a mixture of amyl hydride and rectified ether for producing local anæsthesia; that is, by freezing the spot through which the incision is to be made by the rapid evaporation of the volatile substance spurted upon it in the form of spray. He noticed that when the spray was used for an operation about the nose or mouth the patient often passed into a state of general insensibility to pain. The sleep produced was so gentle, so deep, and yet so temporary, that Dr. Richardson rightly supposed that he was on the track of a most valuable discovery. He forthwith began a series of experiments in order to ascertain whether it was the vapor of the ether or the of hydride which produced the insensibility, and it was not long till he assured himself that it was the latter. When inhaled it created no irritation, induced perfect insensibility to pain, and the recovery from its influence was singularly rapid. The most interesting fact connected with the inhalation of this gas is, that in many instances it induces perfect insensibility to pain, and leaves the consciousness comparatively unimpaired.

Dr. Richardson has also been experimenting with methylic ether. In several cases the patients although quite insensible to pain, were able to obey every request made of them, and some of them kept insisting that they were not yet ready for the operation, because they were entirely conscious, whereas the cutting was going on all the time and they felt it not. One lady took the anæsthetic and then pointed out successively the teeth which she wished to have extracted, adjusting herself in the chair after each tooth was drawn, and yet felt no pain whatever. From this and other cases which came under his notice the doctor very fairly assumes that "in the course of time we shall discover manageable and certain anæsthetic substances which will paralyze sensation only, leaving the muscular power unaltered and the mental little disturbed."—*Baltimore American.*

"Ball Lightning."—A paper was recently read before the Royal Society, by C. F. Varley, in which were detailed some new electrical experiments. One of these, which the author thinks may afford an explanation of the phenomenon known as "ball lightning," we copy,—premising that a Holtz machine was used, and that the brass balls on the poles were about an inch in diameter:—"Tie to the negative pole a small thin strip or filament of wood three inches in length, and bent so as to project on each side of the negative pole, and a little beyond it towards the positive. On rotating the machine, two bright spots are seen upon the positive pole. If the positive pole be made to rotate upon its axis, the luminous spots do not rotate with it; if, however, the *negative pole,* with its filament of wood, be rotated, the spots on the *positive pole obey it,* and rotate also. The insertion of a non-conductor, such as a strip of glass, in front of the projecting wooden end, obliterates the luminous spot on the positive pole. When the author first discovered this, he, seeing apparently pieces of dirt on the positive pole, wiped it clean with a silk handkerchief, but there they remained in spite of all wiping; he then examined the negative pole, and discovered a minute speck of dirt corresponding to the luminous spots on the positive pole. When the filament of wood is removed from the negative pole there is sometimes a luminosity or glow over a large portion of the surface of the positive ball. If in this state three or four little pieces of wax, or even a drop or two of water, be placed upon the negative pole, corresponding non-luminous spots will be found upon the positive pole, which rotate with the former, but do not with the latter. It is therefore evident that there are lines of force existing between the two poles, and by these means one is able to telegraph *from* the negative *to* the positive pole to a distance of eight inches through the air, without any other conductor than that which the electrical machine has constructed for itself across the non-conducting gas. The foregoing seems to the author to give a possible explanation of "ball lightning;" if it be possible for a negatively electrified cloud to be suffificiently charged to produce a flash from the earth to the cloud, a point in the cloud would correspond to the wood projection on the negative conductor; if such a cloud exist, a luminous spot would be seen moving about the surface of the earth, corresponding to the moving point of cloud over it, and thus present phenomena similar to those described by the privileged few who have witnessed this extraordinary natural phenomenon."—*Sci. Press.*

LITERARY.

The Prey of the Gods.*—We are quite at a loss to understand why this story is not included in the Library of Select Novels. It certainly is not because of any de-

**The Prey of the Gods.* A Novel. By Florence Marryat, (Mrs. Ross Church), Author of "Her Lord and Master," "Love's Conflict," "Neronique," etc. New York: Harper & Brothers, Publishers, Franklin square. 1872

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ficiency in point of merit, either in the volume or in the author. One of her books, previously written, "Her Lord and Master," is embraced in that collection. It has been extensively read in this country, and greatly admired. So far as we are able to judge, this story is the equal of that, and deserves to become as popular.

The writer of "The Prey of the Gods," is the daughter of Captain Marryat, author of Peter Simple and Jacob Faithful, who, "in his day and generation," was one of the most prolific and popular of the English tale-writers. Mrs. Church has inherited the talents of her father, and has employed them in the same sort of labor. She differs from him, however, as a lady of refinement might be supposed to differ from "the old man of the sea." She possesses a finer imagination, a greater delicacy of manner, and a loftier sentiment.

The story before us, though not of the Library of Select Novels, is, nevertheless, a select novel, deserting a place in the collection. It is of uniform size with the volumes of that series, but covered with paper of a lighter shade, to indicate its independence. It has however, the advantage of good qualities enough to go alone —a merit that is not possessed by all the exotics of our current literature.

Blade o'-Grass.*—This little story has the double merit of being pleasant in itself, and of calling attention in a direct but not too painful way to the appalling odds against the English poor. The fact that hosts of children grow up in English cities in almost utter ignorance, and dependent for the bread of life upon the practice of some vice is forcibly presented as a fact with none of that indiscriminate railing against the existing order of things the folly of which Charles Kingsley exposed years ago in Alton Locke. The author without venturing upon the political phases of the social questions involved gives us in the childless Mr. and Mrs. Silver a suggestion of a more active private philanthropy than even very good people are likely to regard as incumbent upon themselves. For several years this benevolent couple take into their own house at every Christmas some little waif and care for them all as if their own children. One of these is Blade o' Grass' twin Sister and the antithesis between the lives of the two, one reared under good influence and the other growing up in the gutters, points the moral of the story. In the benevolent Mr. Merry Whistle we see the generous but injudicious nature not a mere mischief maker as taught by certain wise theorists upon charity but a much needed link between the hearts of the well to do and the destitute. The characters of the workingmen's representative and of Mr. Virtue do not, we are sorry to say, bear that impress of truth which destinguishes the other persons of the story. The former is too exceptional to be in any way a fair type, and the old pawnbroker has a very suspicious flavor of Dickens. The tone of the book is temperate and agreeable while some of the pictures especially the evening reading at the Silver's cannot fail to make a lasting impression.

**Blade o' Grass*, by B. L. Farjeon. New York Harper & Brother, 1872.

The Ancient History of the East.*—This is one of the group of volumes denominated in the publishers' catalogue as the "Student's Series," to distinguish it from the New Classical Library and other collections. In this series, among other valuable works, are a number of histories, as of Greece, Rome, France, England, the Middle Ages, the Old Testament, the New Testament, the Queens of England, and the World. These histories are prepared with the greatest possible care, and are as reliable as any of the larger and more elaborate works from which they are abridged. They are perhaps the very best books for general reading in history ever published. They are especially adapted to brief sittings, and their contents may be mastered in the spare hours of almost any young person of ordinary diligence. In this way a large amount of the very best and most available kind of human knowledge may be acquired, with a labor so small as scarcely to be noticed. Not the least important fact in connection with this series, is the low price at which each volume is sold, whereby it is brought within reach of the humblest classes of society.

The work before us embraces the annals of Egypt, Assyria, Babylonia, Media, Persia, Asia Minor, and Phœnicia, from the earliest period to the conquest of Alexander the Great, of Macedon. In the preparation of this work, the author has drawn his facts from the most authentic sources, both ancient and modern. The recent discoveries of the explorer have been used to correct errors and explain mysteries. The intrepretations given by the aid of science to the records and relics of the earliest nations, have been adopted. Nothing, apparently has been overlooked or neglected, which would add to the interest or authenticity of the contents. The narrative is exceedingly compact, but at the same time circumstantial, and as complete as seems possible with so great condensation. In addition to the value of the work as a history of important events, there are certain chapters of special interest, as those which treat of hieroglyphics and cuneiform literature. During the present century many valuable discoveries have been made in both these ancient modes of writing, and the processes as well as the results are carefully detailed. As a manual, either for study or reference,—in the school-room or in the library,—this book will be found of great service.

* *The Ancient History of the East.* From the earliest times to the conquest of Alexander the Great. Including Egypt, Assyria, Babylonia, Media, Persia, Asia Minor, and Phœnicia. By Philip Smith, B.A., Author of the "History of the World." Illustrated by engravings on Wood. New York: Harper & Brothers, Publishers, Franklin Square. 1871.

The American Baron.*—Mr. James De Mille occupies a very exceptional place in literature; and for so much let us be duly thankful, for his style is pernicious, and his talent quite sufficient to give the former influence. How any man of his attainments can answer it to his conscience to write such nonsense as this book and "Cord and Creese" for another example, is a rather curious proplem in psyschlogy. One is forced to the conclusion after reading two or three of these lucubrations that the author has a decided *penchant* for blood bombast, horrible situations and the other "Properties" of low grade novels without having the power or inclination to cast his chosen material into an effective story. He does not relinquish the materials, however, but knocks them together with perfect recklessness and fills in the chinks with anything that comes to hand, making an incongruous and inartistic structure that no man of sense could refrain from condemning. Still the effect is novel, and Prof. De Mille is bright enough to be amusing, and sufficiently original in his characters to catch the attention for the time being. Considered as burlesque his stories have a certain merit, but much of the time they resemble the subject of the satire so closely as to reach about the same level, nor can this plea for his extravagances be any longer entertained as it is painfully evident that he has exhausted the field. Characters also which once had the charm of comparative freshness are growing so familiar as to suggest a trite proverb. The rash young man in "The Lady of the Ice" who is engaged to some half dozen young women at once takes to petticoats in "The American Baron" and the result is a greater fool if possible than the first. This Miss Minnie Fay who enacts the heroine engages herself to two or three men in England and runs away from them into more entanglements of the same kind in Italy. Each gentleman saves her life, receives the promise of her hand, and presses his claims with more or less assiduity. She finally has three of them upon her hands at the same time and the complications naturally arising evolve the plot. Two of Mr. De Mille's gifted young Englishmen (Cigars, by jove, Old boy, etc.,) are introduced and sorted off with Miss Fay's companions, Mrs. Wiloughby a widow, and Miss Ethel whose life has also been saved. Rufus K. Gunn is an American who having taught the Papal troops the art of war is made Baron Altramonte He has the distinguished privilege of rescuing the whole party from a bandit's stronghold into which they have been entrapped by Count Civasole, one of Miss Fay's lovers. The sensations of the story are not all new by any means, and two or three borrowed from Les Miserables and Jane Eyre do not appear to so much more advantage in their new situations as to quite warrant the change. But the book is very entertaining and contains many things well put and good in themselves. The Irish priest with the doodheen, and the Rev. Mr. Zoyer are capital, and a few of the last chapters exceedingly funny.

* *The American Baron.* A Novel By James De Mille, New York, Harper & Bros. 1872.

My Wife and I.*—The writer of this volume seems to be conscious of its defects, or that it has defects, since she says in her preface, the closing paragraph—"The author wishes to dedicate this Story to the many dear, bright young girls whom she is so happy as to number among her choicest friends. No matter what the critics say of it, if *they* like it; and she hopes from them, at least, a favorable judgement." Now this position we regard as essentially wrong; for if the book will not pass the ordeal of the critics, we submit that it is not fit for the perusal of "bright young girls," who may chance to be disposed, on any account, to blink the imperfections. It is possible for "bright young girls" to like books which they ought not to read under any circumstances, and in such cases we earnestly recommend that they be guided and governed by the maturer judgement of the critics.

We would not have it understood from what is here said, that the volume before us is of this character. Its defects are rather those of construction and detail, more likely to be discovered by the critics than the "bright young girls" whom the author is "so happy as to number among her choicest friends." These may read the pages of this volume with delight, and think it a capital story; but the defects of which we speak, can not escape the discernment of the critic, and may not be allowed to pass without his censure. It is true, a story may be the recital of a series of facts or incidents of almost any character, and without any very special connection. There is no single arbitrary rule by which authors must be governed in the construction of a story; and this is well, perhaps, as, otherwise, all would be alike, and without interest by reason of their resemblance.

At the same time, the author is not at liberty to inflict upon the public, because it pleases the "bright young girls" whom she is "so happpy as to number among her choicest friends," any sort of book she may choose to write and call a story. There are some general rules that must be observed, if the author would have her book endorsed by the critics, and perused by posterity. As for instance, there must be a plot of some sort, and that plot should be as nearly as possible a unity, that the interest may be in the greatest degree heightened. It may be, however, that the author wishes to instruct, not to interest and amuse; but in that case she should have written an essay, which is a style of composition every way better adapted to didactic productions.

Perhaps the author imagined that the narrative form would be more enticing, and that characters might be introduced as so many threads upon which to string her pearls of thought. This, however, is a downright fraud upon the reader, who, supposing she (one of the "bright young girls") is reading a story, finds, at the close, or possibly in the progress, that she is only reading an essay, cut up into bits, and ejected with the greatest possible irregularity, from the mouths of different persons, around not one of whom clusters any special interest.

My Wife and I; or, Harry Henderson's History. By Harriet Beecher Stowe, Author of "Uncle Tom's Cabin," "Pink and White Tyrany," etc. New York: J. B. Ford & Co. 1871.

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Surely this is not the way that either essays or stories should be written, for the former is in no way benefited by the mixture, and the latter only when the moral is casual and subdued.

The object of the story before us, as we learn from the author's preface, is "to show the embarrassment of the young champion of progressive principles, in meeting the excesses of modern reformers," and incidentally "to paint the picture of the modern emancipated young woman of advanced ideas and free behaviour." To the object in view we do not object, but to the manner in which it is, or is attempted to be, carried out in the story. The central figure of the plot,—if we may call the slender thread that holds the contents together a plot,—is "Harry Henderson, a plain Yankee boy from the mountains of New Hampshire," who relates his own "experience," in "three stages," "first, my child-wife, or the experiences of childhood; second, my shadow-wife, or the dreamland of the future; third, my real wife, where I saw her, how I sought and found her." It is hardly necessary to remark that the "child-wife" and the "shadow-wife" have legitimately nothing whatever to do with the story, which begins properly in the fifteenth chapter, nearly one hundred and sixty pages from the commencement, where the fortunes of the hero "turned upon an umbrella." The three hundred and twenty pages that follow, if the first part of the book could be lopped off, would constitute a passibly readible story, of considerable interest, especially to such as believe in "the manners and sentiments of the modern emancipated woman."

COLLEGE RECORD.

Carleton College, (Northfield. Minn.)—Pres. J. W. Strong of this institution, has just received from a gentleman in New England, whose name is not made public, a cash donation of Five Thousand Dollars. The new college building which is of stone and three stories high above the basement, and to cost about $25,000, will be completed at once. This is the only college in the State under Congregational auspices, and it is in quite a prosperous condition; it having been unusually blessed for one so young in receiving donations. Mr. Carleton's generous gift last year, of Fifty Thousand Dollars, at once gave to it the confidence of the churches and so assured its friends of ultimate success. It has a most important field in the North West, and all friends of learning will wish it abundant prosperity. *

Jefferson Medical College, (Philadelphia, Penn.)—The annual meeting of the Alumni Association of this College, was held on Friday, March 8th. Dr. W. L. Atlee presided. The Executive Committee presented their report showing a large addition to the membership of the Association, and also that the members were very active throughout the country in promoting the interests of the college. The Trustees had purchased the ground adjoining the college building, upon which it was proposed to erect a structure devoted to hospital purposes. It was designed to construct the building in such a manner as to afford a room for the purposes of a Library. The report was adopted and the following officers elected: President, Prof. S. D. Gross; Vice-Presidents, Dr. N. L. Hatfield, W. L. Atlee, E. Wilson, A. Hewson; Treasurer, Professor B. Howard Rand; Recording Secretary, Dr. J. E. Mears; Corresponding Secretary, Dr. R. J. Dunglison; Executive Committee, Professor E. Wallace, Dr. Mitchell, J. M. Da Costa, Dr. Meigs, Dr. Pancoast, Dr. Bache, Dr. Gross, and others.

Tufts College, (College Hill, Mass.)—Junior exhibition has been abolished from the annual programme at Tufts. This exercise has usually been held during "anniversary week," the last of May. The adoption of the new calendar which fixes Commencement on the Wednesday preceeding the last Wednesday in June, brought the exhibiton too close upon the annual examitions. Moreover, the preparatory work for the exhibition was considered as making disproportionate demands upon the student's time, and energies, at a period of his course, when the demands of the ordinary work of the curriculum were in no degree abated.

The new dormitory is slowly approaching completion. Occupying the highest point of the college land, one hundred and fifty feet above the tide water, in the middle-ground of the landscape, it is an ornament not only to the ground, but to the whole northern suburb of Boston. Prof. John P. Marshall, at last accounts had left Dresden, for Italy. He will propably return in season to take up his college duties at the opening of the fall term. Tufts is threatened with the temporary loss of its president. Too severe demands upon his strength are making their effects evident. Complete rest from mental labor, and a few months sojourn in Florida, are suggested as being all that is necessary greatly to augment the chance of a long life of earnest work and usefulness. *

Collegiate Institute, (Fort Edward, N. Y.)—This institution is one of the many of its kind which were started some fifteen or twenty years ago as a high grade school for students of both sexes, but unlike many of its contemporaries has outlived its days of infancy, and now ranks both in regard to the ability of its management and the curriculum pursued far in advance of many of the so-called Western colleges. At the close of each term during the year a public exhibition is given by the students which is largely attended by those interested in the Institute and living in the vicinity.

Wednesday evening, March 6th the exhibition of the winter term was given in the chapel. About 500 persons were present. Original themes, compositions and speeches were made by the ladies and gentlemen, and received with applause. Prizes were awarded to Messrs. Dobbs and Adsit for the superior excellence of their productions, and also to Miss Haxton for an original poem well rendered. The examinations during this day, before a committee of clergymen, passed off in a most satisfactory manner, each student evincing a thorough knowledge of the subjects in hand. The Institute is now in a most flourishing condition, numbering some three hundred students with real estate, valued at $60,000, and a faculty composed of eleven instructors. Young men are here thoroughly prepared to enter any college in the country, many having already left its portals to enter those of Yale and Harvard. *

College of New Jersey, (Princeton, N. J.)—A disturbance of considerable importance occurred at Princeton recently. The facts as we learn them from the correspondence of the Newark *Courier* are as follows:—Prof. Hart, newly elected to the chair of Belles Letters, had, of late, made certain changes in regard to the recitations of the senior class. He had decided to divide the class into two divisions, one of which should recite at two o'clock in the afternoon, and the other at three o'clock. He also decided that the class should use his text-book, which has recently been published. These arrangements did not seem satisfactory to the certain members of the senior clacs, and they accordingly undertook to get up a disturbance. On Thursday afternoon February 27th, according to arrangement, at the hour for the recitation of the first division, the whole of the senior class augmented by a number of lower classmen entered the recitation room. Professor Hart occupied his usual place at the desk. The students had no sooner seated themselves than they commenced a series of outlandish howls. Fire crackers and torpedoes were continually exploding. The Professor rose to demand an explanation when he was hit upon the head with torpedoes, etc., and was compelled to protect himself from the explosive articles. The Professor after again endeavoring to seek an explanation and proceed with his lecture, was compelled to dismiss the class. It is affirmed that their was not the slightest ground for the action of the class. The only point at which they could take offence was that half of the class was to recite at two o'clock, whereas they had before recited at three. There is no college law requiring a professor to limit the hours of the afternoon recitations to three and four o'clock. As regards the text book the action of the class was still more extravagant. The book was to be furnished at a reduced price and it was the express desire of the faculty that it should be introduced in the college.

On the day following the disturbance quite a number of students received directions to "interview" the faculty on the coming evening, and they will probably be granted a "vacation" of some length.

Yale College, (New Haven, Conn.)—During the week past several items of interest have transpired at Yale.

MEETING OF THE CORPORATION.

A meeting of the Corporation of the college was held last Wednesday. The primary object of the meeting was to receive and take action upon the report of the Committee appointed last summer to consider the subject of the admission of the alumni to a share in the management of the college. The report of that Committee was accepted and the Corporation voted to recommend to the legislature at its coming session a few changes in the Act passed at the last session in reference to the admission of the alumni. The principal changes recommended are, one excluding from the privilege of voting for the alumni members of the Corporation *all* graduates of the first degree in any of the departments who have not been graduated five years, (the original act would allow a graduate of the Medical School to vote the first year after graduation); one requiring that the election shall be held on the day next preceeding the annual Commencement, instead of on Commencement day; one deciding a tie vote in any case by lot; one making a plurality of votes instead of a majority necessary for a choice; and one making the official year of the alumni members of the Corporation end with the day next preceeding Commencement day. The Corporation also considered the plan proposed by the Committee before mentioned, in reference to the manner of voting for the alumni members of that body. The plan proposed by the Committee was printed in THE COURANT of Jan. 13, 1872. The Corporation voted to change that plan so that a proxy vote properly attested may now be sent by mail instead of being presented by a qualified graduate armed with a power of attorney as before provided. A Committee of five was also appointed to have the election in charge. It was also voted that a list of the post office addresses, etc., of all the graduates of the college be prepared for the use of those having the Woolsey fund in charge.

HONOR TO PROFESSOR DANA.

The Geological Society of London at its recent meeting awarded the Wollaston Medal for the present year to Professor J. D. Dana and the balance of the proceeds of the Wollaston fund to Mr. James Croll of Edinburgh. This medal was founded by Wollaston himself in 1828, and is given as a mark of honor for distinguished learning and ability in the departments of Geology and Mineralogy. It was formerly made of palladium but is now a gold medal, adorned on one side with a head of Wollaston and on the other with a wreath which surrounds the name of the recipient. It was bestowed in 1871 upon Professor A. C. Ramsay, formerly president of the society and now one of the council, in 1870 upon Deshayes, in 1869, upon H. C. Sorby; and in 1868, upon Prof. Carl. F. Naumann. Wollaston, the founder of the medal, was one of the most eminent scientific men of his day. He was born in 1766, and graduated at Caius College, Cambridge, where he took the degree of M.D. He, however, did not devote himself to the practice of medicine, but turned his attention to the physical sciences. Among his other contributions to science were the discovery of the metals palladium and rhodium, and the invention of the Wollaston Goniometer and the Camera Lucida. He was a member of the Royal society and was awarded one of its

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medals for the discovery of a method of making platinum malleable. He died of effusion of blood on the brain in 1828.

MISCELLANEOUS MATTERS.

The parties entrusted with the Phelps Prize Fund, and appointed to make regulations for these races have decided that no barge contesting for this prize shall fall below the following measurements: (1) Length 40 ft. width 26 in. (at the water level,) weight 180 lbs. (2) Also that the boats must be built to carry coxswains, at the same time arranged to be steered by the bow oar. (3) That no bort will be handicapped but the University. (4) That no crew shall enter the Shell Race which has not contested for the Barge Prize; that $75.00 shall be awarded as the first and $25 as the second prize.

The measurements and weights are to be recorded by the Secretary. The race is to take place early in the third term, probably this year soon after the middle of May. Allowances will be made to the Barges of '73 and '74, on account of special circumstances, but to no other boats. The Shell Race will take place in June. A new University barge has been ordered from Blakie of Cambridge, also one for the Undine Club.

The officers of the ball and boat clubs have determined to give next term an exhibitionof athletic sports for the benefit of their respective organizations. The sports will include flat races of varying distances; running and standing, high, and long jumps; hurdle races; throwing the ball, etc. Suitable prizes will be offered for each event. It is the wish of the officers that every department of the University be represented in these games. The programme of the proceedings as far as can be decided at present, will be given next week.

The successful competitors for the Junior prize speaking are as follows:—W. Beebe, Cowles, Daniels, Denslow, Houghton, Lathe, Lyman, Miller, Prentice, and Tarbell. Four wrote upon "The Statesmanship of Richelieu;" four upon "The Iconoclastic Spirit of the Age," and two upon "The International Society."

The ball nine practice regularly (though not simultaneously) in the gymnasium and will continue so to do until the end of the term. The subscriptions in the ball interest are about finished and only a few members of '72 remain to be "visited." The amount raised is amply sufficient to carry the nine through the coming season.

The Juniors have chosen Oaks president of the class boat club in place of Boyce, resigned. We understand that some old board bills have come to light, and that the class have voted to sell one or more of their boats to settle the matter.

We regret to learn that Beecher '72 has been obliged to go to Florida on account of his health, to remain probably until the beginning of next term. The number of men "giving out" of late is large and offers a subject for consideration.

President Woolsey began Tuesday evening the delivery of a course of six lectures on the Heathen religions. They are to be continued each Tuesday and Thursday evening at 7 P. M., at the Marquand chapel.

The faculty have, we understand, notified a would be university crew man of '72 that his low stand warrants their prohibition of boating aspirations on his part for the present.

The *Yale Courant* says: Speaking of base ball reminds us that Harvard is now discussing the plan of a system of class matches and a tournament with prizes etc., similar to that held two years ago at Yale. The *Advocate* complains of a lack of base ball enthusiasm at the home of universal knowledge.

An iron founder down town has received unlimited orders for geologizing hammers from infatuated members of '72. The latter have invariably begun their researches by clipping off pieces of Durfee.

The boxing fever is coming on anew and Prof. Dole and Patsey Shepard have each we understand quite a number of students under their instruction.

President Jackson of Trinity visited *incog.* some of the Seniors' rooms last Week and conversed for a considerable time on the removal of Trinity and kindred matters.

'72 are quite backward with their commencement pieces.

Bishop Williams will preach the last of the Berkeley sermons, Sunday evening, March 24.

A meeting of students was held on Wednesday March 6th., to take into consideration the subject of a game of football between Columbia College and Yale. A committee consisting of Messrs. Schaff and C. Deming to which Mr. McCook was afterwards added, was appointed with absolute power to make all arrangements for a meeting of the two colleges in this exciting game. It is thought that the matter will soon be settled and that the game will take place on Hamilton Park the latter part of the present month.

Quite a number of Yale men were at New Haven on Thursday evening, March 7th., to attend the annual reunion of the senior societies. Among these we noticed A. L. Brown, S. H. Dana, and H. W. Raymond of '69, G. E, Dodge, R. W. DeForest, H. J. Faulkner, G. B. Grinnell, G. D. Miller, J. G. K. McClure, S. St. J. McCutchen, J. H. Perry, C. H. Strong. and R Terry of '70, and C. E. Beebe, C. H. Clark. S. B. Jackson, F. Mead, Jr., J. F. Page, T. Peck, W. R. Sperry, and G. A. Strong, of '71.

YALE PERSONALS.

'16, GARFIELD.—Rev. John M. Garfield, of New Haven, died at his residence on Sunday, March 10th. His wife, who had been ill for some time previous likewise died on the following Tuesday.

'21, GRISWOLD.—Rev. John F. Griswold, who died in Brooklyn Feb. 15, was a native of Greenfield, Mass. He was born April 14, 1795. After graduation he went to Andover, where he graduated in 1824. He was first settled at South Hadley Falls, and afterward labored at Fayetteville and Hartland, Vt., and at Walpole and Washington, N. H,; at the latter place he resided twenty-one yeárs. At the age of seventy he retired from the more active duties of the ministry. The following tribute to his memory is from a recent number of the *Congregationalist:* "As a ministerial parishioner he was a model; he seemed to be a strong link in the chain that bound together pastor and people, knowing how to inspire confidence each in the other. His religion was sunny and bright; he could always find something hopeful and encouraging; he could see much that was promising in the signs of the times. Every good cause, especially missions, temperance and education, found in him a true friend. He died a young man, though seventy-six winters had whitened his locks; he was young in his sympathies and in the interest he felt in the progress of the kingdom of God."

'31, JONES.—Rev. Elisha C. Jones of Southington, member of the College Corporation for ten years past, moderator of the General Association of Connecticut in 1858 and 1868, pastor of the Congregational Church of Southington since June 28th, 1837, died at his home in Southington quite suddenly, Saturday March 9th. His funeral was attended last Tuesday by President Porter. We hope to give an obituary notice next week.

'31, SAUNDERS.—Rev. Dr. Ephrain D. Saunders, of Philadelphia, has recently received honor at the hands of the government of that city. Dr. Saunders was formerly owner of considerable land on Thirty-ninth street, and this he some time ago devoted to the foundation of the Presbyterian Hospital. On Thursday of last week, the city councils passed a resolution, wholly unknown to Dr. Saunders, changing the name of that street to Saunders Avenue. The mayor has approved the resolution and the street will hereafter be so known.

'60, COY.—E. G. Coy, who is teaching at Willston Seminary, is to spend a part of his present vacation in New Haven.

'69, BARDEEN.—Chas. W. Bardeen is Superintendent of the public schools, at Whitehall, N. Y.

'69, CHILDS.—Married, February 1st, 1872, at Pittsburgh, Penn., Harvey Childs, Jr., formerly of the class of '69, and Miss Mary Zug, of Pittsburgh.

'69, COPP.—A. J. Copp was admitted to the practice of the law in Minnesota, on the 14th of October last.

'69, DANA.—S. H. Dana of the senior class, in Andover Theological Seminary, has declined a call to Newburyport, Mass.

'69, EWING.—A. H. Ewing is spending the winter at Nice, in the South of France.

'69, ROBERT.—Married at Germantown, Penn., Howard W. Robert, and Charlotte A., daughter of Edward T. Shaw Esq. No cards.

'70, DIX.—Charles H. Dix is an insurance agent in Cleveland, O.

'70, HINDS.—T. F. Hinds, formerly connected with '70, was admitted to the bar in December last, at Albany, N. Y.

'70, KNOX.—Reuben Knox who was with the class of '70, about one term has recently entered '73. He has been studying law at Cambridge, Mass.

'70, LEARNED.—Dwight W. Learned is still pursuing his post-graduate studies in New Haven.

'70, LINCOLN.—G. F. Lincoln is at present in the employ of the Phœnix Iron Co. at Hartford, Conn.

'70, RICH.—J. B. Rich is a member of the Jefferson Medical College, at Philadelphia, Penn.

'70, ROSS.—John A. Ross, is studying law in Kansas city, Mo., in the office of Brown & Case. Post-Office address: Box 2058.

'70, SHEPARD.—Charles E. Shepard is studying law at Rochester, New York.

'70, SPAULDING.—Randall Spaulding is still teaching at Rockville, Conn.

'70, THOMAS.—Edward B. Thomas, is practicing law at Norwich, Chenango Co., New York.

GLEANINGS.

PERSONAL.

— General Joseph E. Johnston has been offered the presidency of the Georgia Military Institute.

— Prof. Ficklin, of the State University of Missouri, is engaged in writing a treatise on Algebra and also one on Astronomy.

— Dr. G. L. Soule, Principal of Phillips Academy, Exeter, is at present unable to discharge his duties, by reason of illness.

— Prof. Gegenbaum, of the University of Jena has declined the chair of Surgery in the new German University at Strasbourgh.

— A letter from Rome, dated Feb. 16, says that Rev. Dr. Loomis, of Lewisburg University, is now on his way to Palestine and the East.

— The students of Davidson College, N. C., propose to erect a monument in memory of their late president, G. W. McPhail, D.D., LL.D., who died last June.

— The oldest living graduate of Williams College is Hon. Frederick Perry, of Stockbridge, who was born Nov. 21, 1787, and graduated in the class of 1802.

— Prof. Archibald C. Geike, professor of Mineralogy and Geology in Edinburgh University has received the degree of LL.D., from the University of St. Andrews.

— Joshua L. Chamberlain, President of Bowdoin College, has been elected, by a concurrent vote of the legislature, Major-General of the volunteer militia of Maine.

— Rev. Dr. Elliot, pastor of the Unitarian Church of the Messiah in St. Louis, was formally installed on Thursday, Mar. 7, as Chancellor of the Washington University.

— The seventh course before the Lowell Institute will be one of twelve lectures on the geology and physical geography of Brazil, by Prof. Ch. F. Hartt of Cornell University.

— Madame Fua, an Italian radical lady, has been appointed Professor of Belles Lettres in the University of Rome and Chief Inspector of convents and all other schools for females.

— Rev. J. W. Scott, D.D., formerly President of Washington College, Pennsylvania, has been elected professor of ancient languages in the University of West Virginia, at Morgantown.

— First Lieutenant Junius W. MacMurray, of the First Artillery, has been detailed by order of President Grant to be Professor of Military Science and Tactics in the University of Missouri at Columbia.

— The Waynflete professorship of chemistry at the University of Oxford, England, will soon become vacant by the resignation, through ill health of Sir Benjamin Collins Brodie, Bart. M.A. Professor Brodie was elected in 1865.

— President Haven, of the Northwestern University, will contribute to the April number of *The Lakeside Monthly* an elaborate article upon "Darwinism and Christianity," a subject upon which Dr. Haven's views have attracted much attention.

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— The time allowed the Berne professors for recantation by the Archbishop of Cologne expired on the 1st of March for Prof. Knoodt, and on the 9th of March for Profs. Hilgers, Reusch and Laugen. There is not the slightest prospect of their receding from the dogmatic views already expressed.

— Prof. Winchell, of Michigan University, delivered a scientific lecture in Chicago recently. The Chicago *Post* devoted nearly half a column to a report of it and affirmed that "It is needless to say that the lecture was worthy of its distinguished author, reflected credit on the University with which he is connected, and delighted as well as instructed the intelligent gathering that came to greet him."

— The London *Athenæum* pronounces the Anglo-Saxon Grammar of Prof. March, of Lafayette College, "an invaluable work for the comparative philologist," and further compliments the College by remarking that "the studies of a philological character carried on at this comparatively small American institution, are not surpassed in thoroughness by those which we are accustomed to associate with the German Universities."

— Dr. Thomas Russell Crosby, of Dartmouth College, who died Mar. 1, was Professor of Physiology in the Agricultural School, and Instructor in Natural History in the academic and scientific departments. His funeral was attended at the College church on the Sunday following, services being conducted by the Rev. James Houghton, President Smith and Prof. H. E. Parker. The latter was a classmate of the deceased, and paid a fitting tribute to his memory.

— Rev. R. N. Newell, a Roman Catholic cleryman of Memphis, who was recently admitted to the communion of the Protestant Episcopal church was at one time President of Clarksville (Tenn.) Masonic College, and afterward was a professor in the Wesleyan Institute at Cincinnati. He spent eight years as a student and professor in the University of Paris. The College of the Sapienza at Rome gave him the degree of Doctor of Divinity, and the University of Nashville the degree of Doctor of Laws.

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COLLEGE.

— At the recent Commencement of the Philadelphia Dental College, there were thirty-two graduates.

— At the recent Commencement of Miami Medical College, at Cincinnati, there were seventy graduates.

There are now nearly one-hundred pupils, of whom fifty are boarders in the Tuskaloosa Female College.

— An effort is being made to raise $5,000 needed to complete the new building for the Logan Female College at Russelville, Ky.

— The German students drawn off by the war are flocking back to the universities, which are nearly all over-crowded this winter.

— C. C. Trowbridge, of Detroit, has purchased for the State University a very fine medallion of Randolph Rogers, the distinguished artist.

— During the month of January twelve shares were sold in the endowment fund of Lane University at Lecompton, Kansas, amounting to $1.500.

— In class of 33, at Lafayette College, Easton, Penn. 15 take German, as their elective study, 7, Chemistry, 6, Juvenal, 3, Hebrew, and 2, Astronomy.

— The Pennsylvania College of Dental Surgery at Philadelphia recently conferred the degree of Doctoy of Dental Surgery upon 27 graduates.

— It is proposed to establish a Baptist University at Memphis Tenn., transferring the old theological school of South Carolina, at Charleston, to that city.

— A gentleman named Willard, has bequeathed to the President and Fellows of Trinity College, Oxford, England, £8,000 for the advancement of mathematical and general science.

— On account of the prevalence of the small pox no visitor has been permitted to enter Girard College since the 3d of last November. Visitors are now admitted however, as usual.

— The Alumni Association of Jefferson Medical College, Philadelphia, Penn., propose to hold a social reunion during the session of the American Medical Association in that city, next May.

— A movement is on foot to secure the foundation of German Professorships in Franklin and Marshall College, at Lancaster, Penn., and a German Faculty in the Theological Seminary at the same place.

— At Ripon College, Wis., the Hermean Society, composed of gentlemen, has been informed by the faculty that they could not be trusted to visit the Ecolian Society, composed of ladies, in their society room.

— Attorney General Barlow was one of two "first scholars" iu his class at Cambridge who came out so nearly alike that no discrimination was made in their rank, but two first parts were assigned of equal rank and honor.

— The reading room at Trinity College, must be in a fearful state if what the *Tablet* says is true. Not only smoking and scuffling but mutilation of the papers and even carrying them from the room, are a common occurence.

— The American students at the Berlin University are making preparations to give Lieut, Fred. Grant, son of President Grant, a hearty welcome and grand reception upon his arrival in that city during June. A banquet and ball are among the features proposed.

— Michigan Agricultural College opened the term for the College year, Feb. 28th, under favorable auspices. All the faculty were present except Dr. Miles. Fifty-four students were examined for admission to the freshman class. The prospect is that the college will be filled to its fullest capacity.

— The portrait of the Rev. Daniel Dana, D.D. one of the early presidents of Darthmouth College and also one of the first instructors in Phillips Academy at Exeter, has been secured for that institution. Dr. Dana was one of the trustees of the institution from 1809 to 1843 a period of 34 years.

— Mr. Sanders, of the Agricultural College at Amherst, Mass., has presented to that institution 67 new plants, mostly tropical, from the government botanical garden at Washington. There is a mahogany tree about a foot high in the collection, and an unknown plant has been received from Hayti.

— A Holtz electric machine, one ot the largest and probably most effective in the world, was forwarded recently to the University of Pennsylvania. The revolving-plate is 36 inches in diameter, and the machine is capable of giving an 18-inch spark, which will pierce a plate of glass 8½ inches thick.

— Seven female doctors gratuated from the New England Female Medical College at its recent Commencement. It is said that the college was never in so flourishing and favorable a position as at the present time, but it needs liberal aid to complete the payment for its new building, and meet other liabilities.

— A bill has recently passed the Lower House of the Alabama Legislature, establishing "The Agricultural and Mechanical College of Alabama," and locating it at Auburn, Lee Co. The bill also accepts on the part of the State the tender of the buildings and grounds of East Alabama Male College at Auburn.

— According to the *Catholic Opinion*, "In each of the twenty-four 'Romish Missions' in China is a college in which the natives are taught Latin, philosophy and theology. The largest and most important of these colleges is at Si-ka-wi, where nearly 300 pupils are taught various trades, together with painting, drawing, and Chinese literature; and several of these are sent to Peking to take their degrees."

— The librarian of Wesleyan University wishes to secure, to complete the library series of the *Methodist Quarterly Review*, copies of volumes sixteen and seventeen, for the year 1834–5. For these volumes a liberal price will be paid; or, if desired, copies of volumes one and two, now very rare, will be given in exchange. Copies of the annual catalogue of Wesleyan University for all years previous to 1850 are also wanted at the library. A liberal price will be paid for them. Address C. T. Winchester, Librarian.

— Commodore Worden, Superintendent of the Naval Academy at Annapolis, has reported to the Secretary of the Navy in regard to the Japanese students at that institution. Their names are Zun Zow Matzmulla and Koroka Katz. During the second academic year the former, in a class of forty-five, stood number eight in mathematics, eleven in chemistry, fifteen in French, forty-one in seamanship, thirty-three in geography, and twenty-six in drawing, history, and rhetoric. Mr. Koroka Katz was not so good in mathematics, as he stood thirty-third in a class of eighty-nine, thirty-eighth in seamanship, fifty-ninth in grammar, and fifty-first in French and history. Of course the Japanese government pays all the expenses of these young gentlemen.

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MISCELLANEOUS.

— The party now organized in England to attempt to find Dr. Livingstone is led by Lieutenant Dawson, and is accompanied by Mr. W. O. Livingston a son of the explorer.

— The name of Mr. Darwin has been placed first on the list for the forthcoming election of a corresponding Member in Zoology of the French Academy of Sciences. *Nature* thinks he will no doubt receive the honor.

— The French Government have under consideration a plan for a Geographical Institute on the largest scale. The proposed Institute is to include all the means and accessories of geographical instruction in its widest acceptation books, maps, charts, globes, instruments, collections of natural objects, etc., and also a staff of professors and teachers of the highest grade.

— The public library of Kentucky has just been presented by Dr. Christopher Graham, one of the oldest citizens of that State, with his large geological and natural historical collection, which he has been gathering for fifty years. The donor declares, furthermore, that he shall continue to add to the collection during the remainder of his life. The trustees have, out of the proceeds of their lottery, purchased a hall in Louisville at a cost of $210,000.

— Of the one hundred and thirty-four Congregational ministers in the State of Vermont, who have received a collegiate and theological education, 29 are graduates of the University of Vermont; 25 of Middlebury college; 22 of Darmouth; 15 of Amherst; 12 of Yale; 6 of Williams; 5 of Union, and from 1 to 4 in half a dozen or more other colleges. Of the number 60 were educated at Andover, 20 at Bangor, 17 at Union, 9 at Auburn, and the remainder at other theological seminaries. The average of their salaries is $905; 54 receiving $1000 or over.

— Catlin's cartoons of the Indians are now on exhibition at the Smithsonian Institution. They are represented as having no particular artistic merit, but give an idea of the way the Indians spend their time, and put farther off than ever the idea that they can ever be civilized. They are represented as sliding down hill, playing by the water's side, climbing trees in a nude state, and riding pell-mell over prairies, horse and rider decked with human scalps, the horse's head as well as the rider's surmounted by a huge crest, and the rider's hair, with the horse's tail, streaming in the wind as they go tearing on. The pictures are in Washington for the purpose of trying to sell them to the Government.

The Stereoscope.—The following story is told of the first introduction of the stereoscope to the *savans* of France. The Abbe Moigno took the instrument to Arago, and tried to interest him in it; but Arago unluckily had a defect of vision that made him see double, so that in looking into the stereoscope he saw only a medley of four pictures. The Abbe then went to Savat, but he was quite incapable of appreciating the thing for he had but one eye. Becquerel was next visited, but he was nearly blind, and consequently cared but little for the new optical toy. The Abbe, not discouraged, called next upon Pouilette, of the Conservatoire des Arts et Metiers. He was a good deal interested in the description of the apparatus, but unfortunately, he squinted, and, therefore, could see nothing in it but a blurred mixture of images. Under the circumstances, the wonder is that the stereoscope ever got fairly into France; but at the beginning of the year 1870, its manufacture had reached a monetary value there of $250,000 per annum.

PUBLISHERS' NOTES.—Mr. E. B. Benjamin, 10 Barclay street, N. Y., has recently established a depot at his large store for the sale of Ward's casts of Fossils. This will be pleasing intelligence to many of our readers who desire to see Ward's excellent imitations, but know of no place short of Rochester, where they might be inspected. Mr. Benjamin has expressed to us his willingness to show them to parties who may call, although purchase may not be contemplated.

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, MARCH 23, 1872. NUMBER 12.

TILGHMAN'S SAND-BLAST ENGRAVING PROCESS.

The eleventh lecture in the Mechanics' course now being delivered at the Sheffield Scientific School in Yale College, was devoted to a treatment of this interesting subject by Prof. George F. Barker. The lecturer remarked at the outset, that the nature of the subject was such that its treatment would partake more of the nature of an exhibition than of a lecture. He wished before commencing to return thanks to those gentlemen by whose kindness specimens illustrating the lecture had been obtained, particularly to the inventor of the process, Gen. B. C. Tilghman, of Philadelphia, and his efficient engineer, Mr. Mathewson; to Messrs. Coleman and Frederici, of the New York Sand Blast Co., and Mr. J. G. Batterson, of Hartford, who were present.

The process was invented by Gen. Tilghman in the spring of 1870. He had noticed the abrading power of sand and gravel when carried by running water; and his attention had also been called to the fact, that glass in the windows of houses upon the sea coast, where the wind drove the sand violently against it, was roughened. In his first experiment a small hole wss drilled through a piece of ordinary window-glass. Numerous experiments were tried to test the applicability of the process to various purposes, a patent being obtained the following October. In the specification accompanying the patent the invention is thus described: "My invention consists in cutting, boring, grinding, dressing, pulverizing, and engraving stone, metal, glass, wood, and other hard or solid substances by means of a stream of sand or grains of quartz or of other suitable material, artificially driven as projectiles rapidly against them by any suitable method of propulsion. The means of propelling the sand which I prefer, is by a rapid jet or current of steam, air, water, or other suitable gaseous or liquid medium; but any direct propelling force may be used, as for example, the blows of the blades of a rapidly revolving fan or the centrifugal force of a revolving drum or tube, or any other suitable medium."

From this it will be seen that the process consists essentially in driving a jet of sand by means of air or steam or other mechanical means against the object to be submitted to its action. The experiments which have been made would seem to show clearly that the sand acts not by abrading or scraping the surface exposed to it, but produces its effect solely by impact, pulverizing to dust the material so that it is removed by the blast. In proof of this, it was stated that the effect produced by the blast seems to bear a direct relation to the brittleness of the material acted upon; glass, one of the most brittle of substances being cut with the greatest rapidity. To the same end is the fact that sand is capable of readily cutting substances much harder than itself—corundum for example—without apparent injury. Moreover, no marked increase of effect appears to be obtained by using emery in place of quartz sand.

The apparatus by which the sand jet is produced differs according to the work to be done. For cutting stone under a high pressure of air or steam a jet piece in bronze technically called a gun, is employed. It consists of a central tube of about one-eighth of an inch internal diameter surrounded by an annular space of one sixteenth of an inch. The sand is allowed to enter the central tube through a flexible tube communicating with a reservoir. The air or steam enters by a lateral opening, passes down the concentric space and by the end of the sand tube, thus creating a partial vacuum in this tube on the principle of the injector. The gun is prolonged by a tube of chilled iron. This tube is the only portion of the instrument exposed to wear, requiring renewal every ten or twelve hours. This gun is arranged upon a carriage movable to and fro by an adjustable rack and pinion. The object is placed upon a second carriage movable in a direction at right angles to this. The effect produced depends (1) upon the pressure employed, which with steam is from 15 to 400 pounds pressure per square inch, and (2) upon the distance from its object at which the gun is placed. It has been found in practice that a jet driven by steam cuts about twice as fast as one driven by air at the same pressure; which, since air has double the density of steam. is plainly due to the fact that a larger part of the elastic force is consumed in setting the air itself in motion. Thus, for example, the amount of work performed by a given quantity of steam under a pressure of fifty pounds, used directly to propel the sand is more than fifty times greater than when the same amount of steam is used to drive a blower which produces an air pressure of one-sixth of a pound.

Specimens were then exhibited of various substances which had been submitted to the action of the blast. Among them was a piece of glass an inch thick which was perforated in seven seconds and cut off along an edge six inches across in six minutes; a piece of gas carbon through which a hole was drilled in seven and a half minutes, and a slot was cut four inches long and half an inch wide in one minute and a half, using eighty-six pounds of steam; a hardened steel file which had been drilled in one minute; and a crystal of corundum through which a hole had been made in ten minutes. To illustrate the application of steam at this high pressure, specimens were exhibited of glass flashed in color, which flash had been cut through where unprotected, thus leaving the pattern in color on a white ground; of plate glass cut half through under eighty pounds of steam, leaving the pattern beautifully frosted; slabs of marble, in one of which a pattern had been cut eight inches in diameter and half an inch deep in six minutes, and another which had been entirely cut through, half from each side; slabs of sandstone having upon them elaborate designs covering more than a square foot in area and cut nearly an inch in depth, in from thirteen to seventeen minutes; and a solid cylinder of granite which had been centered in the lathe and turned true by the sand-blast, applied tangentially. It is found in practice that the sand blast will cut, under eighty pounds pressure, five cubic inches of American marble per minute, and but three cubic inches of Italian marble in the same time. Granite, which requires twelve times as long as Italian marble to be cut with the saw, is cut by the sand blast with an equal rapidity. Some experiments made by Professor Egleston, at the fair of the American Institute last October, showed that the sand blast under an air pressure of 70 pounds, cut away in one minute 1.9707 grams from a topaz weighing originally 2.097 grams, the loss being ninety-four per cent. From another topaz whose weight was 9.774 grams, it removed in the same time, 2.1499 grams, or twenty-two per cent. a hole being cut almost through. A piece of black diamond weighing 1.2607 grams lost in eight minutes 0.0869 grams, or about seven per cent. Metals differ widely in the resistance they oppose to the action of the sand jet, particularly when they are exposed to it obliquely. Thus copper which resists the action of a perpendicular jet as well as hardened steel, is readily cut through by a slanting jet; the result in this case being due to abrasion.

An important application to quarrying stone and even to the construction of railway tunnels was then explained. The jet cuts more perpendicularly as the pressure is greater and the material softer. By setting the gun at a suitable angle it is possible to make one side of the cut perpendicular, and by moving the gun over the surface a V shaped groove three inches deep and of any length may be made. By making a second parallel groove two or three inches from the first, a tongue of stone is left which may be split out with a blunt chisel. New grooves are then cut, and the operation is continued until finally a channel is produced two or three inches in width, two or three feet in depth, and of any length. The block of stone is now easily wedged out. Experiments are now in progress on the Lehigh Valley Railroad, to test the feasibility of this method for tunneling purposes. It is proposed to place two guns, one slightly behind the other, upon an arm whose length is the radius of the tunnel. In this way a groove of two or three inches wide will be cut to any desired depth around the circumference of the tunnel. A single charge of nitro-glycerin in the center throws down the whole mass and the operation is repeated. Compressed air will be used as the propelling force; and to avoid the dust a jet of water in fine spray is thrown into the air reservoir.

The second class of effects which may be produced by the sand blast requires but a moderate pressure. This varies from three quarters of a pound down to two or three ounces; it has even been shown that moderately coarse sand falling from a height of ten or twelve feet will perfectly and rapidly depolish glass. The difficulty is not so much to depolish the glass, however, as to find some substance easily manipulated, which shall resist this action and by means of which the glass may be protected. Many substances which are apparently quite delicate, will, if elastic, afford a more or less complete protection. Thus fresh fern leaves, lace, and the ornamented paper used in confectionery will protect almost perfectly the glass under them from the shower of sand, while it is entirely depolished where not thus protected. By giving the figured paper just referred to a coating of linseed oil, it will resist the blast long enough for it to cut through quite a thick colored flash. Specimens of glass thus protected and ground were then thrown upon the screen, showing that a cheap, and an exceedingly varied ornamentation may be thus readily given to glass. By means of the wooden blocks with which wall paper is printed patterns in paint may be placed on the glass. After drying and exposure to the sand jet the paint is removed and the figure is found clear on a ground surface. A piece of rubber was shown which had been used as a pattern to cut devices in marble, and although more than two inches of marble had been cut with it no perceptible wear could be observed. The New York Sand Blast Company are using this process extensively for the ornamentation of glass. For this purpose a pattern in thin foil is placed on the glass and covered with a cement consisting essentially of beeswax; on stripping off this pattern its reverse is left in cement. On exposure to the blast and subsequent removal of the cement the design is left upon the glass. A highly ornamented doorlight eight feet long can be perfectly ground in twelve minutes.

But the most satisfactory agent both to manipulate and to use as a "resist" is gelatin, particularly when kept moist by means of glycerin. A film of bichromatized gelatin is placed on the glass and exposed to light under an ordinary negative: the soluble portions are then washed away and the shades of the picture are left upon the glass. Upon exposure to the jet of sand all the glass not thus protected is ground; and on removing the gelatin film the design is found engraved upon the glass, the lights of the picture being the ground surfaces and the shades the transparent ones. Specimens of glass with the film ready for the blast and others finished were shown. They exhibited a delicacy of detail and beauty of effect exceedingly remarkable, the Christmas Tree, a group of statuary called "Night"; a landscape "Under the Trees," and some fruit and flower pieces, being especially noticeable.

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Many other applications which have been made of this remarkable process were alluded to, such as the production of electrotype cuts, the preparation of zinc surfaces for "lithographic" printing, the cutting of letters on wooden blocks, the dressing of millstones, and the cleaning of metal castings.

By means of a cylinder of compressed air, Mr. Mathewson then showed the rapidity with which the jet of sand perforated rather thick window glass. Three holes were drilled, requiring about five seconds each. A dull red light appeared whe there sand struck the glass. Subsequently by means of this compressed air, designs prepared before the audience by Mr. Frederici of the New York Sand Blast Co., were engraved upon the glass. The action of the air jet under a low pressure was illustrated by the use of a fan-blower, a piece of lace being used to protect the glass. In a minute and a half the design was engraved and was projected upon the screen with the lantern.

The specimens with which this lecture was illustrated, which were very numerous and represented nearly every application of the process, were brought from Philadelphia, New York, and Hartford, especially for the occasion. The beauty of the specimens, and the elaborate designs which many of them bore, added not a little to the interest of the lecture. The audience was large and appreciative, and manifested the closest interest throughout. D.

REV. ELISHA C. JONES.

Died, March 9th, in Southington, Conn., the Rev. Elisha C. Jones, aged 65.

Mr. Jones was born in Hartford, in this State. He graduated in 1821, and was a classmate, and at one time a room-mate of Prest. Porter. He was tutor for the year 1834–5. In 1862, he was elected a member of the corporation to fill the place vacated by the death of Dr. Porter of Farmington. For nearly thirty five years he was pastor of the Congregational Church in Southington, having been ordained there in June, 1837.

The annals of Mr. Jones' career are brief and simple. His life was what is called uneventful. Yet the career of very few men is so honorable as his was; very few lives are so profitable to the world or so worthy to be celebrated. But he was one of those, who though known and greatly appreciated by a good many, do not obtain a very wide public recognition. To his numerous friends who admired him with genuine and ever increasing enthusiasm, and felt him to be one of the rarest of men, it seems a pity, now that he is gone, that everybody was not aware of his excellence. However, that his name was not more spread abroad was chiefly due to himself. His nature and his habits were such as made him no candidate for fame. Entirely satisfied with the work and place to which he had been called, he was careful for nothing, but to perform with all his heart and strength what he regarded the duties of his office. These he discharged with unflagging enthusiasm, and was content to do nothing beside. He never could be persuaded to lecture; and it is almost incredible how little he gave to the press. He held back from all the common ways by which men come into public notice. It suited him best to stay at home and belong wholly to his own people, and so the world will never know how much it lost by his death. Be it so. He was not concerned to have it otherwise.

In one respect, he did a public service, that will not lack a measure of acknowledgment. For a whole generation he *appeared in one place*, and thus in these changing and restless times, he was an element of *stability*. Elsewhere men came and went, and the light of the ministry was variable, but in Southington there was a lamp that burned decade after decade with an even, steady radiance—a lamp with oil in it—till it came to be seen as unshifting and reliable as the sun. For this constancy, if for nothing else, Mr. Jones deserved the grateful recognition of the churches and of the community at large.

As a preacher, while his written sermons were thoughtful, scholarly, direct, and grew better to his very last day in the pulpit, his great power lay in his gift of extemporaneous exposition of the scriptures. He had very few equals there. It was called his forte, but he acquired the art of it only at the cost of much severe labor. But as he finally learned it, it was really a splendid accomplishment. The writer well remembers, when a boy, being often thrilled from head to foot and wrought up to a pitch of excitement that was almost painful by his discourses, of this kind, on the historical parts of the Old Testament; also, what profound sensation used to run through the whole audience at times. He brought to bear upon this exercise everything that was in him, and showed himself forth in it as nowhere else. He was keen, eloquent, picturesque, intensely dramatic and full to overflowing of the most delicious humor.

With what life and exquisite naturalness would he enact the scenes he was describing! And then while his hearers were all engaged with the representation, and so to speak off their guard how shrewdly and how instantly he would shoot into their hearts the arrow of a passing application! And as for humor, it was a thing for which he was not responsible, for it was born in him. In general he curbed it, it is quite possible that he hardly approved it, but it was not to be helped. Very little of it escaped his pen, but when he was enlarged in the liberty of extempore utterance, it would break from him, flash on flash, genuine, fresh, irresistible, clear and pure from a good man's heart creating an innocent mirth that neither misbecame the Lord's house, nor hindered the power of His word. The twinkle of the eye, the look of indescribable richness, the beaming face with which these delightful outbursts were accompanied, will never be forgotten. They make a picture that memory cannot lose. But in all the wit and delineation that enlivened his discourse, there was nothing opposed to entire seriousness and dignity. No one ever yet doubted that the one only object of Mr. Jones' preaching, in general and in particular, was to save men.

In private relations he was a man who inspired the most unqualified admiration, and those who were so happy as to have him for a friend could not tell whether they loved or respected him more. The delights of his company will be their frequent theme for years to come. They will hardly taste the like again.

In the latter part of his life especially, it was a great pleasure to be with him. He grew young faster than he grew old. His heart was light with the joy of increase in faith, hope, and charity. He rested in God. He took bright views; he was of good cheer, there was gladness in his voice; he was sympathetic, social, wise, sportive, spiritually minded all at once, and so full of vitality throughout, that it was a gift of new life to come in contact with him.

While it seemed as if he probably had his ten best years of earth yet upon him, he was called away, closing a diligent, useful and happy life with a peaceful death amid the people of his love, who carried him to his burial and made great lamentation over him. Blessed is his dear memory, and blessed is the Christian hope of seeing him again.

PENNSYLVANIA DUTCH.

It is well known, we suppose that in certain parts of Pennsylvania, there is now in common use as vernacular, a sort of language known as Pennsylvania Dutch. So far as we have met it both in conversation and in print, it has seemed to be a corrupt kind of German, perhaps of a dialect of the German and formed, to a certain extent, by the union of the two languages, English and German. The following specimen of this language has through the kindness of a friend found its way into our office. As will be seen the subject matter is simply an apothecary's advertisement; but as affording means for philological study, not less than as a curiosity, it may perhaps be worthy of the space which it occupies. We abstain from all attempts to examine any of the words critically, or trace any from their origin to their present form, leaving that for any who may be interested in the subject. At the risk of falling into error we have appended both a German and an English translation.

GOOK YUSHT AMOHL DOH.
MONSLEIT UN WEIBSLEIT!!
BUWA UN MÆD—YUNGY UN OLTY,
ATTENTION!!
DER EAGLE DRUG SHTORE!
DER BESHT UN DER WHOLFEALSHT!
——. —. ————, OBBADEAKER.

IN DER DRITT SHTROSE, SUED BETHLEHEM.

Olsfort uf hond, olly sorta fun de beshty Drugs un Meditziena, un on de wholfealshty prices. Also, PAINT, OEHL, GLAWS, VARNISH, &c. Mer hen aw an neier article dos gor net gebutta konn wærra; es is de bareemt

"SALTED SODA"

un wærd g'used for seaf kocha. Prowiers amohl—de directions we mers braucht geana mit.

Om Eagle Drug Shtore is aw der plotz for PATENT MEDITZIENA, BITTERS, &c., &c., &c., Fun olly ort, un on de wohlfealshty prices. Also, COAL-OEHL, LOMPA, WAUGA-SHMEER, &c., &c.

Now mind was mer sawya; mer hen olles uf hond was mer denka konn in unser line of bisness. We g'sawt, unser prices sin wholfealer dos in ennichem onnera Drug Shtore im County. Ferges't net der platz,

IN DER DRITT SHTROSE UNNICH DER LOCUST, SUED BETHLEHEM.

Now is de tseit; macht eich bei, un judg'd for eich selwer; kummt in foor weasa, uf horse back, uf em Railroad odder tsu foos—mer sin gor net particular wie, yusht so dos der kummt on

DER EAGLE OBBADEAK IN SUED BETHLEHEM.

Un bringt eier greenbacks mit. Wholfeal for Cash—sell is unser style.

——. —. ————,
August 28, 1869. OBBADEAKER.

GUCK'T NUR EINMAL HIER!
MAENNER UND FRAUEN!
BUBEN UND MAEDCHEN—YUNGE UND ALTE,
AUFMERKSAMKEIT!
DIE EAGLE APOTHEKE!
DIE BESTE UND DIE WOHLFEILSTE!
——. —. ————, APOTHEKER.

IN DER DRITTEN STRASSE, SUED BETHLEHEM.

Immer zu haben, alle Sorten von den Besten Droguen und Medicinen, zu den wohlfeilsten Preisen. Auch Farben, Oele, Glass, Lack, etc. Wir haben auch einen neuen Artikel, welcher gar nicht geboten werden kann; es ist das berühmte

"SALZ-SODA"

und wird gebraucht zum Seifen-Kochen. Probiert's einmal—die Gebrauchs-Anweisung, wie mann's braucht, geht mit.

In der Eagle Apotheke ist auch der Platz für PATENT MEDICINEN, BITTERN, &c., &c. ,&c., von allen Arten und den wohlfeilsten Preisen; auch, KOHLEN-OEL, LAMPEN UND WAGENSCHMIERE, ETC.

Nun merkt Euch was wir sagen, wir haben alles vorraethig was man in unserem Geschäft nur denken kann. Wir sagen, unsere Preise sind wohlfeiler als in irgend einem andern Apotheker Laden des Countys. Vergest den Platz nicht,

IN DER DRITTEN STRASSE, UNTERHALB DER LOCUST, SUED BETHLEHEM.

Jetzt ist die Zeit; macht euch herbei und urtheilt selbst; kommt herein in Fuhrwerke, zu Pferde, auf der Eisenbahn, oder zu Fuss—wir sind gar nicht eigen wie, nur dass Ihr kommt,

ZUR EAGLE APOTHEKE IN SUED BETHLEHEM.

Und bringt Eure Kassenscheine mit. Wohlfeil für baar Geld—das ist unsere Art.

——. —. ————,
APOTHEKER.

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ONLY LOOK HERE ONCE!
MEN AND WOMEN!
BOYS AND GIRLS—YOUNG AND OLD,
ATTENTION!
THE EAGLE DRUG STORE!
THE BEST AND THE CHEAPEST!
——: —. ————, APOTHECARY.
IN THIRD STREET, SOUTH BETHLEHEM.

Always on hand all sorts of the best Drugs and Medicines, and at the cheapest prices. Also, PAINT OIL, GLASS, VARNISH, ETC. We have likewise a new article that cannot be beat, it is the celebrated

"SALTED SODA"

and is used for soap boiling. Try it once—the directions how to use it go with it.

At the Eagle Drug Store is likewise the place for PATENT MEDICINES, BITTERS, &c., &c. &c., Of all sorts, and at the cheapest prices. Also, COAL-OIL, LAMPS, WAGON GREASE, ETC., ETC.

Now mind what we say; we have always on hand whatever can be thought of in our line of business. We say that our prices are cheaper than in any other Drug Store in the County. Do not forget the place,

IN THIRD STREET BELOW LOCUST, SOUTH BETHLEHEM.

Now is the time; give us a call and judge for yourselves; come in wagons, on horseback, by railroad or on foot—we are not particular how, only so that you come to

THE EAGLE DRUG STORE IN SOUTH BETHLEHEM,

And bring your greenbacks with you. Cheap for Cash—to sell is our style.

——. —. ————,
APOTHECARY.

THE METRIC SYSTEM.

In the New York Evening *Post* of March 7th, we find a valuable article from the pen of Prof. A. M. Mayer, Ph. D., of the Stevens Institute of Technology, setting forth the advantages of the Metric System of weights and measures. The article is founded on the recent revised edition of a work by President F. A. P. Barnard, of Columbia College, which is described in its title as "The Metric System of Weights and Measures: an Address delivered before the Convocation of the University of the State of New York, at Albany, August 1, 1871." We regret that the length of Prof. Mayer's article prevents us from giving it in full, but perhaps some idea of what it contains and of the value of the work upon which it is founded may be obtained from the extracts which we make. After affirming that it is of little consequence whether the meter or yard is the most "natural" or "religious" unit of measurement. Prof. Mayer goes on to give the positive advantages of the meter as follows:—

But, what is of consequence is (1) that when the unit has been once established it should remain of a constant value, and should permit of being readily copied with an exactness which will render any error it may possess insignificant in any measurement to which it will be applied; (2), that it should be of a convenient length; (3), and should be divided in a manner that conforms to the system of numeration and computation of the people who daily use it. (4), Also this unit of length should have a simple relation to the units of weight and capacity by making these latter contain the weight and measure of one cubit unit of water at a determinate temperature; and (5) finally, if possible, the weight of the unit of gold coinage should bear a simple relation to the unit of weight.

Both the yard and the meter exist as unit-bars from which copies have been made with great exactness, so that, if either standard were lost it could be reproduced from the copies without appreciable error. The yard and the meter are also equally convenient both to carry and to stretch, the meter being only about 3·4 inches longer than the yard. But the advantages in all the other requirements above mentioned are in favor of the meter; for this is decimally divided, thus conforming to our system of numeration; and since notation and computation in decimal fractions are but the natural extension of our system of numeration and coinage division, both measure and computations in meter fractions are executed with greater rapidity and certainty. As an example, I take a yard-stick and measure my room, and find it 5 yards 9 inches and 5-16 inch wide, and 6 yards 1 foot 1 inch and ⅞ inch long. I now take a meter-stick, and find for the width 4·808 metres, and for the length 5·813. We wish from these measures to find the area of the floor in square yards and in square meters by multiplying the width by the length measure. Let the reader perform this operation in the English measures and then in the French, and time accurately each operation. The result will convince him of the superior rapidity and certainty of the metric computation.

If the advantages of the metric system are at once apparent when applied to the determination of an area, yet more evident is its superiority over the English system when we compare them in an application to the determination of a capacity. And the advantages of the metric system do not stop here, for as its units of weight are equal to the weights of units of capacity of water, it follows that a French engineer has instantly the weight of a stone or structure of masonry when he knows its volume and its specific gravity; whereas the English engineer has to reduce his measure of volume to cubic feet and fractions of the same, to multiply them by 62½ (roughly speaking), and the product by the specific gravity of the stone. Such operations as we have instanced are of hourly occurrence among all the men who are now advancing in civilization by the application of science, and why should such a practical people as the American waste time in such indirect processes as are required in all applications to the arts of the English system of weights and measures. In the language of the Yale Naught-ical Almanac, "overcome by the influences of New England birth," Elihu Burritt calculated how much time was wasted in England by introducing the *u* into such words as favour, honour, &c. It would be really worth the muscle to drive the Albany Observatory calculating engine to a result giving the number of lives (in time) spent from using the English measures of weights instead of employing the metric system. Evidently the mental economy of the nation demands that the latter should displace the former system.

After giving an appreciative review of the address itself of Prest. Barnard, in which the answers of the latter to the almost puerile objections to the metric system, published by a member of the former convocation committee on a uniform system of weights and measures, are clearly presented, Prof. Mayer's article concludes as follows:

Not the least valuable part of this work of Dr. Barnard is the "Note on the Unification of Moneys," forming Appendix A: "To touch an interest of such vast magnitude as the coinage, of the world is a thing which to be done safely must be done cautiously," for the world's existing coinage amounts to three thousand millions of dollars. Our space will not permit us to do justice to Dr. Barnard's comprehensive discussion of this important international problem, for we are convinced from a careful study of it that it is the clearest and most reliable exposition of this subject ever published in America. It must suffice to give the following abstracts: "It is an opinion easily taken up upon a *prima facie* view of the subject, that the pound sterling of Great Britian, the dollar of the United States, and the franc of the French Republic, might, by the simplest process of legislation in the world, be reduced to a regular geometrical series of values. Hence, therefore, it is probable that everybody, who knows anything about these important national money-units and the relations in which they stand to each other, has often said to himself, in the language of one of the resolutions reported to the Convocation of the University of the state of New York, by this committee on weights, measures and coinage, that "such changes should be made in the values of the franc, the dollar, and the English pound sterling, that twenty-five francs be exactly equal in value to one pound sterling." It was surely not an observation so little profound as this, that the Convention had a right to expect of their committee. Considered as help toward the attainment of the desired uniformity of currencies, it rather reminds one of good Mrs. Nickleby's very practical suggestion to her embarrassed husband: "My dear Nicholas," said the excellent lady, "why don't you do something? Why don't you make some arrangement?" * * * The sundry international conferences which have been called during the last fifteen years to consider this subject, have not wasted breath in axiomatic propositions and empty generalities, but have given all their collected strength to the study of the knotty problem, *how* this thing is to be done. The solution of this problem is considered by the ablest publicists and profoundest financiers of all nations to be one of the most perplexing with which legislation has to grapple."

Dr. Barnard in this appendix clearly states the difficulties in the road to a speedy adoption of one international coinage. There are many, the fundamental being that in France and the United States both silver and gold are standard metals, while in England only gold is the standard, while the real silver standard coin (the franc of nine parts of pure silver to one of alloy, of a weight of five grammes) has actually ceased to exist, the present silver coinage of France being a debased coinage; and this is nearly the case in the United States for silver coins below the silver dollar. Therefore, before the solution of the problem can begin, the nations have to decide whether gold or silver shall be the standard. Another difficulty in the way is the diversity and variability in the standard of fineness.

President Barnard closes his discussion with these suggestive considerations: "If Germany has failed to grasp the favorable occasion for reconciling the conflicting monetary systems of Europe, she has nevertheless brought order out of the confusion of her own. Henceforth, in reference to this matter, she contributes but a single element instead of many to the general discord; and permits us to say that the number of the inharmonious elements which, in studying the question of unification, we are compelled to consider is practically reduced to these four: the mark, the franc, the pound sterling and the dollar. The relations which these bear to each other, as presented in the weights and values of their characteristic gold coins most nearly approximate, are given here—the weights being expressed in grammes and milligrammes, and the values in the currency of the United States:

Country.	*Coin.*	*Weight pure gold.*	*Weight standard gold.*	*Value.*
Germany,	20 mark piece	7.168	9.965	$4.764
France,	25 franc piece (proposed)	7.258	8.065	4.824
Great Britain,	Sovereign	7.322	8.136	4.865
United States,	Half eagle	7.523	8.359	5.000

In this exhibit we have the whole case immediately under the eye. Till Germany intervened the widest range of difference between the representative coins of the systems which it seemed most important to reconcile, was less than eighteen cents. She has extended it to nearly twenty-four.

The very hopelessness of the case in the aspect here presented imposes upon the four great powers above named the obligation to lend their most serious attention to every alternative possibility of relief which may be suggested; and, in the actual state of things, it is eminently well worth their consideration, whether present effort should not be directed toward the creation of a coinage for international use on a plan entirely independent of all local and purely national systems. Such an international coinage, though not in strictly commensurable relations with the coins now actually in use, would be productive of the great benefit of immensely simplifying commercial exchanges, and of providing travellers with a currency everywhere invariable in value. The advantages which its introduction would bring with it, are to some extent even now actually enjoyed throughout a large part of Europe, in consequence of the extended circulation which the gold Napoleon secured beyond the limits of the French territory. But though it circulates freely all over Germany, Austria, Holland, Denmark and Sweden, it circulates only by toleration, and because of its great convenience; and is not a legal-tender for payments of any amount in any of those countries.

"The international coinage here suggested will command, if established, an immediate circulation among all the peoples who shall unite in its creation, and will bring with it greater advantages than have attended the continental circulation of the Napoleon. The existence of such a coinage will, moreover, keep constantly before the minds of all those who use it the desirability of a currency which shall not be only international, but everywhere uniform and identical. Thus the proposed coinage may become a powerful instrumentality in promoting the attainment of the object for which it seems at first to be only designed as a substitute, the ultimate complete unification of the monetary systems of the world."

"An international coinage devised without reference to systems actually existing, and controlled in its principles by no considerations of what may be their discordances or resemblances, may be, moreover, constructed on a strictly scientific plan, and thus, when time shall have familiarized the nations with its values and its visible forms, it may happen that without violence, and by the spontaneous action of people themselves, diversity may silently give place to uniformity, and a better system than any which present legislation could create, may ultimately prevail throughout the world."

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THE MODERN GREEK.

The Greek of Athens is but a faded shadow of his ancestors of the time of Pericles. He wears the costume, it is true, and is quite a dandy in his way, and his outward semblance is striking and imposing to the eye of the stranger; but there the resemblance ceases. And of all lives, in all countries professing to be civilized, the life at Athens to-day is probably the most idle the most aimless of any other under the sun.

There is literally nothing to do there, and the people do it most thoroughly; so that every Greek of active mind or body flies away from that classic locality, as though the pestilence were perpetual there, and leaves it in possession of the idlers and imbeciles of his race, content to live on the smallest modicum of physical and intellectual sustenence which can support life, and caring for nothing larger nor better.

Thus dwellers on the islands, or more remote mainland, preserve their national peculiarities much more strongly than the Athenians; and in the mountain regions their ways are fashioned after those of their ancestors, and the primitive freedom of the Pastoral Age seems to be revived to the traveler who rests among them.

You see the *Pallikad*, in his wonderful costume, so bright and so pictorial, with embroidered jacket, snowy fustanelles, or linen shirt ,embroidered leggins, and long gold-tasseled red cap, jauntily set on one side of his head, armed to the teeth, with long gun and pistols stuck in his belt, which draws his waist into wasp-like tenuity.

Graceful in person handsome in face, he yet looks, as he probably is, more like a bandit than a peaceful citizen. He may earn his bread by the sweat of his brow, but not in useful labor; and he is often the hero of one of those terible stories of brigand ferocity and cold-blooded cruelty which occasionally chill the blood of civilized Europe, as did the tragic fate of those Englishmen but two years since. A better man in all respects is his rougher brother, the peasant or shepherd, who is clad chiefly in undressed sheepskins, and who lives frugally but honestly, labors hard, and dwells in a mere hut, generally of but one room. A man of fewer wants and wishes than he, more content with his lot and more careless in the accumulation of wealth in a wide experience of mankind, the roving American has never met.

These are the two extremes of Greek society: The *Pallikad*, representing the gentlemanly idler, living on his means or his wits; and the agricultural laborer, who lives by the labor of his hands. Between them is a class of small landed proprietors and shopkeepers, who have fewer of the national peculiarities, whether shown in vices or in virtues.

The language they speak resembles the old Greek tongue which is taught us in universities about as nearly as the language of Chaucer resembles what we call English to-day. The words, to some extent, remain the same; but the pronunciation of the letters is entirely changed, and *Romaic* has superseded the Attic tongue—even as the "soft bastard Latin" of the Italian now faintly echoes the old Roman speech in the ancient capital of the elder world.

At Athens, until I had learned the difference, I vainly sought to converse with their educated people in what I regarded as their own language. What I said was evidently "all Greek" to them; as their lisping accents—so unlike the sonorous roll of Homer's speech—were to me. Yet I could take up *The Elpis*, daily journal of Athens, and read it with ease. Thus I discovered the fact that the change in the language was more in its pronunciation than in its words, and that the *Romaic* was really not so different from the language of Homer's heroes as I had supposed.—*Correspondence of the Independent.*

— Dr. Joseph W. Howe has been appointed Clinical Professor of Surgery in the Medical Department of the University of New York.

SCIENTIFIC.

THE SOLAR ECLIPSE OF DECEMBER 12, 1871.

The results of the last solar eclipse which have thus far come to hand, are contained in the reports of Lockyer, Maclear, Pringle, Respighi, and Tennant, published in full or in abstract in *Nature*; of Janssen, published in the *Bibliotheque Universelle* and *Comptes Rendus*; and of Pogson and Oudemans, of which only notices have appeared. We avail ourselves of abstracts of these various reports, prepared by Professor C. A. Young for the March and April numbers of the *Boston Journal of Chemistry*:

The shadow of the moon struck the earth on the morning of December 12, in the Arabian Sea, near the mouth of the Persian Gulf, and thence travelled to the southeast across the southern point of India, and the northern extremity of Ceylon, passing over the Straits of Sunda, and very near the city of Batavia, touching the northern coast of Australia, and finally disappearing in the Pacific. The duration of the darkness ranged about two minutes in India, to four in Australia.

"In Australia, the parties sent out from Melbourne and Sydney were disappointed by bad weather, but so far as heard from, the observers in India and Ceylon were all favored in this respect."

Col. Tennant's telegram to Dr. Huggins is as follows:

DODABETTA, NEAR OOTACAMUND,
Dec. 12, 9.15 A. M.

"Thin mist. Spectroscope satisfactory. Reversion of lines entirely confirmed. Six good photographs."

Dodabetta is on one of the peaks of the Neilgherry Hills about 8,600 feet above the sea. It seems to be the most western of the stations occupied. The clause about the reversion of lines refers to an observation of my own, made during the Spanish eclipse of 1870—an observation which had been somewhat discredited in certain quarters.

From N. R. Pogson, of the Madras Observatory, who was stationed at Avenashy, about forty miles southeast of Dodabetta, but at a much lower elevation, we have the following to the Astronomer Royal:

"Weather fine; telescopic and camera photographs successful; ditto polarization; good sketches; many bright lines in spectrum."

Bekul, or Baikul, where Mr. Lockyer observed, is on the western coast of India, about twenty-five miles south of Mangalore. Mannantoddy, where Abbay was stationed, is also west of Dodabetta, about halfway between it and Bekul. At this station alone the weather was bad and prevented observation. Poodoocottah, Respighi's station, is on the eastern side of the peninsula, some twenty miles from the sea; and the only stations in Ceylon were at Jaffna and Trincomalee.

From the English Eclipse Expedition which went out under the charge of Mr. Lockyer, and was divided into several parties, we hear as follows:—

"MANGALORE, Dec. 16.

"The eclipse observations have been very successful. The extension of the corona above hydrogen apparently small. Five admirable photographs have been taken."

The address and signature of this telegram are not given; I suppose it to be from Mr. Lockyer himself.

From Mr. Davis, the photographer of this English party, to Lord Lindsay, who equipped the photographic corps at his own expense, besides contributing many valuable instruments for other observations, we have this telegram:—

"MANGALORE, BAIKUL.

"Five totality negatives; extensive corona; persistent rifts; slight external changes."

Finally, Dr. Oudemans of Batavia telegraphs to the Royal Academy of Sciences at Amsterdam:—

"Preliminary results: corona distinctly seen, pure white rays, dark rifts as far as the moon's limb; no outline of chromosphere; radial polarization of corona; no magnetic disturbances; moving shadows positively observed."

The London *Daily News* for January 15, which has been reeeived from a friend in England, contains a long letter of more than three columns from some gentleman of Mr. Lockyer's own party. The letter is mostly taken up with an account of the voyage, preparations, etc., but I give an extract describing the eclipse.

After picturing the terrifying effect of the advancing eclipse upon the superstitious natives, he continues:—

"It is now time to return to the fort (where was placed the observatory). Capt. Maclean (Maclear?) announces bright lines in abundance. Mr. Lockyer has barely time to observe these, whisper a word or two, and reach the large spectroscope, before he exclaims 'Steady,' the signal agreed on for commencing the counting of time. Instantly everybody in the fort heard Capt. Bailey's clear voice ringing out 'You have 120 seconds,' and there in the leaden-colored, utterly cloudless sky shone out the eclipsed sun! a worthy sight for gods and men.

"There, rigid in the heaven, was what struck everybody as a decoration, one that an Emperor might fight for, a thousand times more beautiful than the Star of India even where we are now, a picture of surprising loveliness, and giving one the idea of serenity among all the activity that was going on below, shining with a sheen as of silver essence, built up of rays almost symmetrically arranged around a bright ring above and below, with a marked absence of them right and left, the rays being composed of sharp radial lines separated by furrows of markedly less brilliancy."

The writer goes on with an account of the observations, but as continually happens when popular writers describe scientific work in the popular journals, things are pretty badly mixed up, and as it stands the account is tantalizingly unintelligible. One or two points are clear: the 1474 line was seen longer than F; vertical polarization was observed over the whole corona with the Savart polariscope. The description of the other polariscope results is confused.

The observation of the eclipsed sun through a train of prisms, by Mr. Lockyer, gave the following result: He saw four exquisitely colored rings, with projections in each directly above the prominences visible on the sun's limb. One of the rings was a brilliant scarlet, answering to the C line of hydrogen; the second was green (1474); the third blue (F); and the fourth violet (2796). Furthermore, the rings were all of about the same height, estimated at 2′, and the green zone was the faintest. What is singular about the result, and contrary to what might have been expected, is not as Mr. Lockyer seems to think, the faintness of the 1474 ring, but the fact that it was no larger than the others, and only 2′ instead of 8′ or 10′ high.

Respighi's result, however, agrees better with my own expectations. Observing in a manner essentially similar, but with a telescope instead of the naked eye, he saw the same rings except the one in the violet, and describes them thus:

"The green zone surrounding the disc of the moon was the brightest, the most uniform, and the best defined. The red zone was also very distinct and well defined, while the blue zone was faint and indistinct. The green zone was well defined at the summit, though less bright than at the base: its form was sensibly circular, and its height 6′ or 7′. The red zone exhibited the same form and approximately the same height as the green, but its light was weaker and less uniform."

Both observers agree in this. Neither of them saw any yellow zone corresponding to the D^3 line, nor did they see anything of the coronal streamers through the prism. The significance of the first fact has been already indicated. The second goes to show (though considering their faintness it does not quite make it certain) that the streamers differ in their nature and material from the coronal atmosphere; it does not by any means, however, follow that they are not solar in their origin.

The reversal of the Fraunhofer lines seems to have been satisfactorily observed by Captain Maclear at Bekul, Colonel Tennant at Dodabetta, and Captain Fyers at Jaffna. It was partially seen by Pringle at Bekul, and Respighi at Poodoocottah, and probably by Pogson at Avenashy. How it was with Janssen I do not know. His instrument, however, on account of the small size of the sun's image, was not very well adapted for this observation.

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Mosely, at Trincomalee, did not see it. Mr. Lockyer missed it by an accidental derangement of the telescope. He says further, "At the last contact Mr. Pringle watched for it and saw no lines." How the mistake occurred I do not understand, but Mr. Pringle's own words are, "At the end of totality a considerable number of lines flashed in; what proportion of the whole I cannot say, perhaps one third."

Captain Maclear writes, "As totality came on the light decreased, and the lines increased exceedingly rapidly in number and brightness, until it seemed as if every line in the solar spectrum was reversed: then they vanished, not instantly, bnt so rapidly that I could not make out the order of their going."

This description applies exactly to what I saw in 1870, except that the lines then made their appearance more suddenly—they flashed out like the stars from a rocket head; but the discrepancy is easily enough accounted for by supposing that the portion of the sun's limb last covered by the moon was then more quiet than at the time of Captain Maclear's observation.

Mr. Lockyer, also observing the structure of the corona with the telescope, followed it for more than three minutes after the sun returned.

The following telegram from Janssen, the French astronomer, was sent to the Secretary of the French Academy of Sciences:

"OOTACAMUND, Dec. 12, 1871.

"Corona spectrum attesting matter beyond sun's atmosphere."

Another telegram from the same gentleman, dated December 18, reads thus in English:

"Great atmosphere of highly rarefied hydrogen above the chromosphere."

Since then fuller accounts have come to hand: I translate a portion of one of Janssen's letters:

"In my telescope the spectrum of the corona appears not continuous but remarkably complex. I found in it the bright lines of hydrogen, which forms the principal element of the protuberances and the chromosphere; the brilliant green line already observed in the eclipses of 1869 and 1870, and some other fainter ones; and finally some of the *dark* lines of the ordinary solar spectrum, notably D: these lines are much more difficult to perceive.

"My observations prove that, independently of the cosmical materials which must exist in the neighborhood fo the sun, there exists around this body an atmosphere very extensive and excessively rare, with hydrogen for its basis (à base d'hydrogène). This atmosphere, which undoubtedly forms the outside gaseous envelope of the sun, is fed by the material of the protuberances projected with such violence from the bowels of the photosphere, but is distinguished from the chromosphere and the protuberances by a density enormously less, a lower temperature, and perhaps by the presence of certain different gases.

"There is then reason to assign a distinctive name to this new solar atmosphere. I propose to call it the *coronal atmosphere*, a designation which indicates that it produces the principal portion of the luminous phenomena which thus far go by the name of the Solar Corona.

"In announcing this result I do not forget for my part, how much we owe to the labors which have prepared the way for it; notably those of the American astronomers in 1869 and 1870."

The only objection to be made to this is that he should speak of his own observations as proving instead of confirming a discovery made in 1869 and fully established in 1870. The name *leucosphere* was proposed for this "coronal atmosphere" by Lieutenant Brown, last year, but has not been generally adopted.

The observations of M. Janssen at Sholoor agree with those at nearly all the other stations, in demonstrating the presence of hydrogen in this upper atmosphere—an exceedingly important addition to our knowledge. Some of the hydrogen lines were indeed seen in 1870 by nearly all the observers, but since they were also seen almost as well on the surface of the moon itself as anywhere else outside of the chromosphere, their presence was generally attributed to simple atmospheric glare—I certainly thought so, wrongly as it seems. What decides the matter, however, is not that the hydrogen lines were seen, but that the D^3 line, so called, which in the spectrum of the chromosphere is brighter than the F and G lines, was *not* seen: this fact, which cannot be accounted for on the supposition of a mere reflection, comes out very strikingly in the observations of Lockyer and Respighi. Janssen also deserves great credit for his success in bringing out for the first time the dark Fraunhofer lines in the corona spectrum. He owes this success to his magnificent instrument, a reflector of 14 inches aperture and only 56 inches local length, giving an image from 12 to 15 times brighter than common, and fitted with a corresponding spectroscope.

As to the polariscopic results, Mr. Lockyer and his associate, Dr. Thompson, found strong vertical polarization over everything. At Jaffna Captain Tupman and Mr. Lewis found it as strongly radial: so also Oudemans at Batavia. Mr. Pogson's result is announced as "satisfactory," but whether that means vertical or radial I am sure I do not know. The old puzzle evidently remains.

There is nothing further as to the comparison of photographs, 5 of which were obtained at Bekul, 6 at Dodabetta, 3 at Avenashi, and 6 at Jaffna, besides a few others by amateurs at different stations.

Putting everything together, it would seem that the principal results of this eclipse are simple confirmations of conclusions which had already attained on previous occasions, but were not entirely acquiesced in by all astronomers.

It will hardly be disputed any longer that the sun's atmosphere extends very high above its luminous surface, and that the dark lines of the ordinary solar spectrum originate in the lower strata of this atmosphere.

No one will longer claim that the corona is mainly an effect of our own atmosphere. I think I may go farther, and say it will be universally admitted that the corona,—ring, rays, rifts, streamers, and all,—is a true solar appendage, whose appearance and extent are only slightly modified by our own atmosphere But perhaps this is premature; at any rate, the comparison of the numerous photographs and other observations can hardly fail to settle the question forever.

—M. J. Mueller has experimented on the chromatic polarization of hail-stones, and he finds that they are not made up of amorphous but of crystallized ice, which is put together in all directions.

Cooking Food Below 212° F.—Dr. Jeanel.—From a series of experiments, it appears that food (meat as well as vegetables) boiled at 200° is more nutritious and of better flavor than when boiled at or above 212°. The author illustrates this point by what takes place in mountain localities (every 100 meters' rise above the sea level makes a difference of 0.6 deg. less in the boiling-point of water); as, for instance, at Potosi (Bolivia), at 4061 meters above sea-level, and an average barometric reading of 454 m.m., water boils at 187°, at Mexico, 2277 meters above sea level, 568 m.m. barometer, water boils at 198°; at Briancon (France), 1321 meters above sea level, 643 m.m. barometer, at 184°; also by the action of the so-called Norwegian cooking apparatus.—*Gas Light Journal.*

Mineral Cotton.—At a recent meeting of the Franklin Institute, Mr. Coleman Sellers exhibited a sample of a material which is now for the first time to be manufactured and applied to useful purposes in the arts.

The product possesses a general resemblance to cotton, for which it may doubtless in certain cases be substituted with advantage, but on closer examination seems more like spun glass, which in reality it is. It is formed by allowing a jet of steam to escape through a stream of liquid slag, by which it is blown into the finest threads, sometimes two or three feet in length. These threads, though somewhat elastic, readily break up into much smaller ones, and, the color of the substance being white, the appearance of a compacted mass of it makes the name under which it has been described a very appropriate one. The admirable non-conducting property of the material for heat, as well as that of the great quantity of air which it retains in its interstices, would seem to fit it very well for a non-conducting casing to steam-boilers and pipes, an application for which it is at present being tested.—*Journal of Franklin Institute.*

Mechanical Effects of Magnetization.—"The effect I wish to make manifest was discovered by Mr. Joule, and was subsequently examined by MM. De la Rive, Wertheim, Marian, Matteucci and Wartmann. It is this: At the moment when the current passes through the coil surrounding the electro-magnet, a clink is heard emanating from the body of the iron, and at the moment the current ceases a clink is also heard. In fact, the acts of magnetization and demagnetization so stir the particles of the magnetized body that they, in their turn, can stir the air and send sonorous impulses to our auditory nerves. The sounds occur at the moment of magnetization, and at the moment when magnetization ceases; hence, if a means be devised of making and breaking, in quick succession, the circuit through which the current flows, we shall obtain an equally quick succession of sounds. I do this by means of a contact-breaker which belongs to a Ruhmkorff's induction coil. A thin bar of iron stretches from one of the bridges of this monochord to the other. This bar is placed in a glass tube, which is surrounded by copper wire. The contact-breaker is placed in a distant room, so that you cannot hear its noise. The current is now active, and every individual in this large assembly hears something between a dry crackle and a musical sound issuing from the bar in consequence of its successive magnetization and demagnetization."—*Professor Tyndall.*

High-Speed Engines.—At the fair of the American Institute, in October, 1870, the first prize for steam engines was awarded to the Allen engine, which is high pressure and is run at a high rate of speed. Since that time President F. A. P. Barnard, the President of Columbia College and also of the Institute, has made an elaborate investigation of this engine, the results of which he presented to the managers as a supplementary report, which we find published in full in the *Engineering and Mining Journal.* The following are Dr. Barnard's conclusions:—

High velocities and considerable weight in the reciprocating parts of cylinder steam engines, working expansively, are advantageous in the following particulars:

First, in distributing the work done with a near approach to uniformity over the circumference described by the crank in its revolution; and secondly, in greatly reducing the irregularities of strain experienced by the working parts of the engine, especially as it respects the torsion of the shaft.

The advantage derivable from the use of heavy pistons increases with increase of weight only up to a certain point and is dependent on the initial pressure of the steam in the cylinder, on the point of the stroke at which cut-off is made, and on the velocity of revolution.

A high speed, heavy piston engine, depends, like every other reciprocating engine, upon the inertia of its fly-wheel or other rotating parts for the facility with which it passes the centers, but it taxes these regulators less than the ordinary reciprocating engine, because of the brevity of the intervals during which the effective force intermits. There must be at the beginning of the stroke a large excess of steam pressure above that which is required to overcome the inertia of the piston, and impart to it the necessary acceleration; otherwise the advantages derivable from this construction and mode of working will not be fully secured, and the irregularity of working of the engine may even be exaggerated.

The counterpoise weight employed to balance the strain exerted toward the close of the stroke by the heavy piston upon the crank, ought not to exceed one half the weight of the reciprocating mass to which it is opposed; otherwise, immediately after the passage of the centers, the strain on the main shaft in the direction opposite the crank will be excessive, and may be injurious.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. F. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, MARCH 23, 1872.

IT will be seen by a notice in another column that the qualified alumni of Yale are invited to send their nominations for the six places in the Corporation to be filled by alumni, to Franklin B. Dexter, secretary of that body, before the first of May next.

ONE of the provisions of the Act of Congress of 1862, granting lands, etc., to Agricultural and Mechanical Colleges was that in certain States, in lieu of land scrip should be issued. The number of acres represented by this issue of scrip as given in the Report of the Commissioner of Education, is 7,830,000. And for the better security of this scrip a bill has been prepared by Mr. Maynard, which provides that the Secretary of the Interior shall ascertain and report to Congress the amount of Agricultural College scrip issued, the institutions that have been established or endowed with the proceeds of this scrip, and the amount of funds received by each. Provision is made for the punishment of persons guilty of embezzling or misapplying the funds, and it is further provided that, in case any State fails to comply with the conditions under which the scrip was granted, the Attorney-General shall file a bill in equity against such State in the U. S. Circuit Court.

THE question of the removal of Trinity College from its present site has taken a step forward within the week past. The proposition to submit the question of purchase to a vote of the people prevailed in the city government, and on Tuesday last the vote was taken. The resolution submitted to the people was as follows:

"That the court of common council of the city of Hartford be instructed in behalf of the city of Hartford to purchase the grounds in the city of Hartford, known as the Trinity College site, and described as follows—[Here follows a description of the whole thirteen acres] excepting such portion thereof as the court of common council may hereafter offer to the capitol commissioners for a site for a State house; the sum paid for said purchase not to exceed the sum of six hundred thousand dollars."

But this resolution was also saddled with the proviso that the city should not become a purchaser unless the college authorities would agree to locate the college on some other site in Hartford. The result of the vote was a majority of 1528 in favor of the purchase of the grounds, the whole vote being nearly five to one in favor of the project. A late dispatch announces the sale by the trustees, the vote being 12 to 4, and the price $600,000.

THE REPORT OF THE COMMISSIONER OF EDUCATION.

The report of the United States Commissioner of Education and accompanying papers, a volume of over seven hundred pages is a collection of facts, information and recommendations whose value to those engaged in educational work can hardly be estimated. The variety of the information presented, and the evident care taken to render it accurate and exclude worthless matter, and at the same time the reputations of the authors of some of the accompanying papers all combine to testify to the worth of the Report. We look upon the Bureau of Education and the yearly Report of the Commissioner as one of the most useful means of assisting the progress of education throughout the country, and we rejoice that the work seems to have fallen into so efficient hands. The tone of the Report of Commissioner Eaton gives evidence that his heart is in the work and that he is sparing no pains to worthily magnify his position and well perform its duties.

The volume before us may be divided into two parts, the Report of the Commissioner and an Appendix. The former occupies about seventy-five pages of the work. The latter is made up of a survey of the condition of education in the several States and Territories in the Union, obtained from the official reports of school officers, etc; a paper on the General Condition of Education among the Indians, by Richard J. Hinton; an abstract of the doings of the different Educational Conventions and Institutes held during the last year; a Report on the National Schools of Science, by Prof. D. C. Gilman of the Sheffield Scientific School of Yale College; a paper on the Education of the Blind, by Dr. Sam'l G. Howe, director of the Perkins Institute and Massachusetts Asylum for the Blind, Boston; and one on the Education of the Deaf and Dumb, by President E. M. Gallaudet, Ph. D., L.L.D., of the National Deaf Mute College. The Appendix also contains an Annual Review of Education in Foreign countries; and a brief resumé of the condition of education in foreign countries where it is aided by American Institutions. There are also special articles on Educational Methods in Germany; on the Progress of Education for Women; on the Cooper Union in New York City; on the Education of Artizans; on the Objects of the Kindergarten; on Musical Education in Common Schools; on the Relations of Education to Crime; on the Press as an Education; and twenty-six statistical tables covering about one hundred and twenty-five pages of the volume. And from our examination of the work we are ready to affirm that nearly every one of these articles would well repay a careful study and that valuable information may be drawn from them all.

And now having given an idea of what the work contains, we will devote the remainder of our space to drawing a few facts from the Report of the Commissioner itself. And first with regard to the educational condition of the country at large. It is stated in the Report that more than one-sixth of all the people are utterly illiterate, and that about three-fourths of this illiteracy is to be found in the South. To overcome this lamentable condition of the South efforts are being made, but are not meeting with entire success. In some of the Southern States progress is reported during the year past, but in others opposition still exists, and in some, actual retrogression has taken place.

But while the South seems to be most cursed with ignorance there are other views in which the illiteracy of the country may be regarded. Several tables are given in the Report which give the sex, nativity, color, etc., of those who are unable to read and write. For the purpose of convenience the whole country is divided into three grand divisions, the Northern, including all the present States in which slavery did not exist in 1860 except the three on the Pacific slope; the Pacific, including the three States of California, Oregon and Nevada and all the Territories except the District of Columbia; and the Southern, including the rest of the States and the District. Now in these divisions more than one-half of the illiteracy of the Northern one is found in persons of foreign birth; more than one half of that in the Pacific division is due to the same cause; while only about one fifty-seventh of that in the Southern division can be laid to the charge of those not born in this country. In all the States and Territories the ration of the foreign illiterate to those native born is about one to seven; or, in other words, about one-seventh of the whole number of illiterates were born in foreign countries. Comparing now the number of foreign born illiterates with the foreign population of the country as shown by the last census, and we find that a little less than one-seventh of them are so ignorant as to be classed as illiterates; and making the same comparison with those who were native born, we find that a little more than one-seventh fall into the same category, or in other words the illiteracy of the people compared with their birth is slightly in favor of foreigners. We have no means of making the same comparisons for different parts of the country, but this result—doubtless opposed to the common opinion—is probably due to the great illiteracy of the Southern States. From another table given in the Report, we learn that the white illiterates of the whole country outnumber those of all other races. But in the geographical divisions before mentioned there is quite a diversity on this point. In the Southern division only fifteen out of every forty-two are white, while in the Pacific division twenty out of every twenty-three, and in the Northern thirteen out of every fourteen are of this color. There is also a table given in which the relative illiteracy of the sexes are compared. In this the Chinese and Indians are omitted, and the conclusion is reached that fifty-eight per cent. of the illiterates of the Northern division, fifty of the Pacific, and fifty-two of the Southern are females. Interesting statistics are also given showing how many of the ignorant are adult, and how many are between the ages of ten and twenty-one. Of the conclusions reached we give only the following: More than seventy-nine per cent. in the Northern division, more than sixty-eight in the Pacific, and more than fifty-nine in the Southern are grown people; and in the Southern States nearly a million and three-fourths of persons between the ages of ten and twenty-one are without the merest rudiments of an education.

The conclusions reached in the various tables presented are summed up as follows: In proportion to the whole population of the respective divisions which have been named, it is found that in the matter of illiteracy the Northern division is twice as well off as the Pacific, and five times as well off as the Southern; that the native born in the Northern division, who are not illiterate are ten times as great in proportion to the whole population as the same class in the Southern; that of the white people in the North more than twice as many in the same proportion, as those in the South have some education; that the colored illiteracy of the North, is only one forty-eighth that of the South, and that four and a one half times more adults and ten times more minors who are illiterate are found in the Southern than in the Northern states. In view of this condition of the country, it is gratifying to see the strong ground which the Commissioner takes in his report in favor of the government extending pecuniary aid to overcome the evil. The recommendation of the year previous, that the net proceeds of the public lands be devoted to this purpose is reiterated, and while disclaiming any desire to interfere with the rights of states and municipalities, it is affirming that "something in the way of pecuniary coöperation is imperatively demanded."

Another subject touched upon in the report of the Commissioner is full of interest to those connected with colleges. This is the number of applicants for admission to colleges who are rejected, and for what they are rejected. Statistics, however, are given from only six colleges, and the United States Academies at Annapolis and West Point. From these statistics, we learn that out of 525 candidates who presented themselves for admission to these eight institutions, a little less than one-fifth were rejected entirely. Of the three hundred and nine who applied to the six colleges, nearly one-twelfth were rejected and of the two hundred and sixteen who wished to enter the Academies nearly one-third were refused; showing either much poorer preparation or greater rigor in the examinations of those who applied to the latter institutions

In the six colleges mentioned, Amherst, Bowdoin, Columbia, Brown, Hamilton and Williams, the deficiency in nearly every case was in Greek, Latin and Mathematics, only one college, Amherst, finding any deficiency in

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anything except these. In Amherst there were failures both in spelling and grammar. In the United States Academies, however, the deficiences were entirely in these lower studies, arithmetic, grammar, geography, history, reading, writing and spelling, and physical disability. Of the three hundred and nine who applied to the colleges mentioned, about one-eleventh were deficient in Latin, a little less than one-tenth in Greek, and nearly one-sixth in the higher mathematics. In the United States Academies the greatest number, one sixth of those who applied were deficient in arithmetic, and the next greatest number in grammar. It is of course impossible to judge of the relative rigor and quality of the examinations, in the different colleges referred to, from these figures, because some of them may have had a better class of applicants than others, but we may, perhaps, get an approximate view. Amherst rejected entirely, nearly one-sixteenth of those that applied, Bowdoin, nearly one-ninth, Columbia, nearly one-fifth, Brown, nearly one-thirteenth, Hamilton, just one-sixteenth, and Williams only one twenty-seventh. Two of the colleges, Amherst and Columbia, found the greatest number of candidates deficient in the higher mathematics; Brown in Latin; Hamilton and Williams, in Greek; and Bowdoin an equal number in Greek and Latin. Presupposing that the candidate were equally well prepared, the rank of the colleges mentioned as determined by the number found deficient in the Latin examination, is as follows: Amherst, Bowdoin, Brown, Columbia. Hamilton and Williams found none deficient in this study. The same supposition holding true, in reference to Greek, and we find that the colleges stand: Amherst, Bowdoin, Columbia and Hamilton, (equal), Brown and Williams, (equal). In higher mathematics, the rank is, Amherst, Columbia, Bowdoin, Hamilton. Brown and Williams found none deficient in these studies.

In connection with this subject, the Commissioner affirms that the several colleges reported did not show any uniformity in their examinations in the common English branches and the elementary studies, and then says:

"I would earnestly recommend these facts to those in charge of our colleges, who can hardly desire that their future graduates shall not be well trained and thorough in the common English branches, as well as in those subjects which are pursued under their own care, and would suggest for their consideration whether they cannot do much to aid teachers in elementary and secondary schools, in securing the desired thoroughness in these branches, by including in the examination of candidates for admission to their institutions an examination in the elementary studies. The law of supply and demand is applicable here as elsewhere. Have not these institutions an opportunity, by making this thoroughness in elementary English studies a requisite for admission, to be of great service to the community in raising the standard of secondary education throughout the country?"

Among the excellent suggestions of the report is one that a National Educational Exposition be held in 1876, in connection with the Centennial Exposition at Philadelphia in celebration of American Independence. The opportunity is justly regarded as a most favorable one for getting together both the experience and best methods of education in every part of the country, and drawing from them information of the greatest valve to all. If rightly conducted it would seem that nothing could more advance the educational interests of the country. The recommendations of the Commissioner in reference to increased facilities for doing the work of the Bureau must it seems to us commend themselves to the approval of all, and we can but hope that they will receive attention from Congress. The report closes with acknowledgements to those who have assisted in its preparation.

PROFESSOR THOMAS RUSSEL CROSBY, M.D.

The following preamble and resolutions in reference to the recent death of Professor Crosby is an extract from the Minutes of the Dartmouth Scientific Association:

WHEREAS, it has pleased our Heavenly Father in His wise Providence, to remove unexpectedly by the hand of death, the first President of this Association, our beloved associate, Prof. T. R. Crosby.

Resolved, That in the death of Prof. Crosby, this Association has lost one who by the extent of his learning and the excellence of his character, has been a most valuable and highly esteemed member; that to the association as a body and to the individuals as members, the loss is that of a friend and brother, and is most deeply felt; and that we tender the family and friends of the deceased our most heartfelt sympathy in their affliction.

Resolved, That a copy of these resolutions be sent to the family and friends, and moreover, be sent for publication to the following periodicals: COLLEGE COURANT, *Boston Journal*, *Naturalist*, and the N. H. *Mirror*.

F.

LITERARY.

The Land of Desolation.*—Dr. Hayes is well-known as an arctic explorer, first in company with Dr. Kane (in 1853–5); then independently (in 1860–1); and again with Mr. Bradford the painter (in 1869.) His books are also well known,—vivid, entertaining and instructive sketches of life and adventure in the Northern seas.

His last journey, which took him for a thousand miles along the Coast of Greenland, even to the ice of Melville Bay, has given him the material for the new book now before us, with its not very well chosen title, "The Land of Desolation," borrowed from old John Davis's Mariner in 1585. This little volume is in three parts; one, chiefly devoted to the remnants of the Northmen settlements, dating ever so far back, perhaps to the tenth century; a second, chiefly given up to studies of glaciers and icebergs in their native land; a third full of sketches of scenery and incidents "beneath the midnight sun,"—beyond the Polar Circle. A sprightly style, a practised pen, abundant woodcuts, and a variety of acquisitions combine to make the story of the arctic traveller highly entertaining.

The reader must not expect to find in the chapters on the Northmen, any very profound contributions to archæology, nor in those on Glaciers, the exact observations of Tyndall in the Alps; but rather a frank, popular account of the facts which came under the Doctor's observation in a voyage which he frankly says was devoted to the "picturesque" rather than to the "scientific."

* *The Land of Desolation.* By Dr. Isaac I. Hayes. New York. Harper & Brothers. 1872. 357 pp. 12 mo.

Patty.*—This volume constitutes No. 372, of the Library of Select Novels. As this series embraces nothing that is not of a high order of merit, and morally "above reproach," we might safely commend its perusal without a persual. But our habit is to read a work before we speak of its contents, that we may not fall into error, and especially that we may not praise that which we ought to censure. We "speak from the book," therefore, when we say of this story, that it is one of the most pleasing and entertaining we have read in a length of time.

"Patty" is the work of a new author, of whom little is known in this country, except that she is the writer of "Rookstone," a story of considerable ability, and more than ordinary interest. As a story, the book before us is quite as good in all respects as the earlier production, which, in the little time that has elapsed since its publication, has enjoyed a fair share of praise and patronage.

Among practiced novel readers, "Patty" will be popular. The interest begins at the beginning. Within the first dozen lines, Patty and her father, who is Roger Westropp, and his cottage and his cabbages, and the letter upon his knee, are all brought before the reader. "Iv'e made up my mind, so she may as well know," occurs at the opening of the fourth paragraph—and there begins an interest, which is nowhere allowed to flag, but continues with the reader until he has reached "the end."

* *Patty.* A novel. By Katharine S. Macquoid, Author of "Rookstone." New York: Harper & Brothers, Publishers, Franklin Square. 1872.

Appleton's Hand Atlas*.—The work just introduced to the American public under the name of "Appleton's Hand Atlas of Modern Geography in 31 Maps" is not an original American work, but an impression, designed for use in this country from the plates of the public School Atlas, lately published in London by the Longmans. Rev. George Butler, the editor, is the Principal of Liverpool College, and is not to be confounded with Rev. Samuel Butler, who became Bishop of Lichfield, and whose "Modern and Ancient Atlas" has long been familiar to the students of Yale College.

The merits of this work are these:

1. Very clear outlines and lettering,—avoiding the crowded aspect of many German maps, and the patch-work coloring of many American works. The aspect of each map is good, making it easy to consult.

2. Decided prominence is given to the elevated plateaux and mountain regions,—not as much indeed as would be given in a physical map, but more than is common in a work designed for general use.

3. Especial fullness in European maps, each of the chief countries having a separate page.

4. Occasional subordinate maps of interesting ingions; *e. g.*, the Bolivian Plateau and the La Plata Mouth, on the map of South America. More such maps might have been advantageously inserted.

5. Recent corrections of the plates so that the present outlines of Germany, the latest outlines of Western United States, the newest subdivisions of Italy, etc., are indicated.

6. Names are almost invariably printed horizontally, (except the names of rivers), thus facilitating reference.

The atlas was designed originally for students in Eton Harrow and other Public Schools of England, and will doubtless be very welcome to students of corresponding age here.

* *Appleton's Hand Atlas of Modern Geography.* 31 Maps. Edited by Rev. George Butler. New York: D. Appleton & Co. 1872.

The Paris Commune.*—The author of this book was inside the walls of Paris during the whole of the brief period in which the Commune existed. His own eyes witnessed many of the scenes which he describes, even of the saddest and most inhuman. There is no reason therefore, why he should not write a history of the origin, rise, struggle and fall of this most extraordinary party. It would seem, too, that his long residence in Paris and intimate acquaintance with the habits of thought and action of the people, ought to particularly qualify him for making a trustworthy chronicle of the events so full of painful interest. He professes to have carefully examined and sifted all reports published in the Paris journals and written by foreign correspondents with most of whom he was in constant association. The time since the reëstablishment of the republic has been devoted to verifying these reports and obtaining additional facts.

The narrative goes over the whole story from the beginning of the insurrection to the sentence of Rochefort. It contains many interesting documents and extracts from publications at the time, a map of Paris, and portraits of all the principal actors in the tragedy, which the author says is "probably the saddest which has ever appeared on the page of history." He holds to the more general opinion, that Dombrowski, Delescluze, Cluseret, Rochefort, Grousset, Rigauld, Rossel, and their comrades of the Commune, were political charlatans,

* *The Rise and Fall of the Paris Commune in* 1871; with a full account of the Bombardment, Capture and Burning of the City. By W. Pembroke Fetridge, Editor of "Harper's Guide-book to Europe and the East," "Harper's Phrase book," &c. Illustrated. New York: Harper & Brothers, Publishers, Franklin Square. 1871

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outlaws, and robbers, deserving of death. He regards them in the light of usurpers and traitors, men who improved an opportunity to substitute themselves and their selfish political ideas in the place of honest men and a legitimate government.

There are those who have no patience with this view of the Communists; who believe that these men were the leaders of a movement which is yet to become general, and ultimately successful. They claim that in this system are to be found the seeds of political ideas, which are the only sound ones for the correct government of communities. Of course they find very much to condemn in this book, besides a certain loseness of expression, which, in an American writer, is, to say the least, reprehensible. As for instance, on page 16 will be found the following phrases, some of which are incorrect, and all of which are inelegant: "loosened the *bagne* of some thirty thousand of its frequenters," "committed, under the name, and for the purpose of protecting the Republic," "he accused that statesman with all the misery lately brought upon France," "the origin of events proposed to be illustrated." Carelessness of like character may be found throughout the volume.

If the reader will overlook the shortcomings in style, however, he will find the contents—the facts, which, after all, in a book like this, are what he will particularly care for—every way reliable, and all that could be desired. It is probably just as well that the author has refrained from attempting to explain the political problem of the Commune,—an undertaking for which he, with his peculiar prejudices, is by no means qualified. He regarded this body as an organized band of traitors, and their acts as open violations of law and order and decency, the destruction of life and property, and a total disregard of all human rights, personal and political, social and solitary.

In this view of their character and conduct, however, he is fully sustained by the Thiers government, by which all of the captives have been punished, and most of the leaders executed. Whether it were better to have inflicted the sentences that followed conviction, or to have commuted the punishment, or to have pardoned the offenders, are questions concerning which there is still a wide difference of opinion. So soon after the overthrow of the Great Rebellion of the South in our own country, followed by the virtual unconditional liberation of all the captured traitors, Americans are inclined to think President Thiers unneccessarily cruel, and that the blood of these malefactors will eventually weaken rather than strengthen his government. But perhaps it would be well to keep in mind the fact that our government was sustained and strengthened, while that of France is, as yet, but an experiment, in the success of which, even after the disposal of these disorganizers there are very few who have an abiding confidence.

COLLEGE RECORD.

Middlebury College, (Middlebury, Vermont).—The Spring term of this college opened on the 29th of February. Prof. R. D. C. Robbins, who has occupied the chair of Greek and German Languages and Literature, resigned his position at the close of the last term. Prof. Robbins has been connected with the college for over twenty years, and bears a high reputation as a classical scholar. He is especially known to the public as the editor of the excellent American Edition of *Xenophon's Memorabilia*, a work which has attained a deservedly wide circulation. Mr. E. H. Highley of the class of '68 is now occupying the position thus vacated.

The New Strasbourg University.—A correspondent writing from Strasbourg says: Our new university is at length fairly established, and promises to become one of the principal pillars of German learning The building allotted to its use is the palace hitherto used by the Emperor on his visits, a most appropriate edifice. The city believed itself to have parted with the palace by presenting it as a gift to the Emperor, which was done for reasons of economy, viz: because, as long as the edifice was its own, it had to bear the whole cost of preparing it against the Emperor's arrival; whereas, having made it the Emperor's, the latter had to bear the expense. There was a flaw in the deed, and it has been cancelled. In order not to lose its right of proprietor, the city has let the building to the university authorities at the nominal rent of 100 francs a year. The first term is to be opened on May 1, and it is satisfactory to report that excellent teachers have been secured. The judicial faculty promises to be the best in Germany, thanks to the appointment of Koppen, Laband, Hinschius, Loning and others. The theological faculty has preserved its old members of the French regime. The medical faculty is still in a nascent state. The philosophical faculty, including natural sciences, history, philology, literature, etc., shows a good contingent of masters. It is expected that not only a great number of Germans will flock to Strasbourg to go through their academical course, but that many foreigners likewise will resort hither instead of going to Heidelberg or Bonn.

Amherst College, (Amherst, Mass.) — Prof. Julius H. Seelye, professor of Mental and Moral Science is about to take a journey to India and the East. It seems that about the first of January he received an invitation from the American Mahratta Mission, urging him to take up his abode in India, but this he has decided not to do. He has therefore been invited to come, if for only a few months, and if nothing prevents, he will leave Amherst about commencement and go overland to Japan; travel through the Japanese Empire until the last of October, when he will repair to Bombay and take up his work for the months of November, December, and January, which is as long a time as it is safe for those to stay who are not accustomed to the climate. He will return by way of the Red Sea and the continent, completing the voyage around the world, and arriving home in time to resume his work at the beginning of the next Summer term. The object of Prof. Seelye's visit is to labor among a class of people in India who are educated in the English Colleges there, and who are dissatisfied with Brahminism, but who cannot be educated in Christianity in those colleges, as such teaching is forbidden by the government. The present junior class will probably either receive their Mental and Moral Science, during Prof. Seeleye's absence, from Rev. Dr. L. P. Hickok, who now resides at Amhert, or take a portion of the senior studies, next term, under Prof. Seelye, and finish with him after his return.

The following notice in reference to attendance upon the gymnasium has been made public:

1. The following additions will be made by the Registrar to the general average rank of every student whose attendance, exercise, and deportment at the Gymnasium, and obedience to the laws of health have been in perfect compliance with the rules and instructions of this Department. To each student whose average rank is ninety or more, *one-half a unit.* To each average between eighty and ninety, *one unit.* To each average below eighty, *two units.*

2. For irregularities and manifest imperfection in the duties of this Department, as indicated above, a reduction of rank will be made in a similar ratio to the elevation for excellence in the same.

Ralph Walch Emerson has responded favorably to an invitation to deliver the oration before the open societies next Commencement.

Massachusetts Agricultural College, (Amherst, Mass.—The ninth annual report of the Trustees of this institution, recently submitted to the State Legislature, states that during the year the property of the college has been largely increased, the facilities for instruction multiplied, its faculties strengthened, and its students more numerous and faithful than ever before. These results are regarded as largely due to the influence of ex-Governor Claflin. The number of students in 1871 was 166, embracing representatives of twelve other States than Massachusetts, and one from Spain and one from Japan. The Durfee plant house has been thoroughly repaired and planted, and contains about 1000 different species and varieties of plants. The most important addition to this department recently, consists of a collection of 67 species of rare trees and shrubs raised in the public garden at Washington, and presented by William Saunders. There is a great need of money in this department, which by means of a wise expenditure might soon be made self-supporting. Various improvements have been made on the college farm, and remunerative crops gathered from the fields. The great difficulty in the way of the most successful management of the farm is represented to be the lack of active capital. The cultivation of the sugar beet is discussed at some length, and the conclusion is that with skilful cultivation and manufacture there would be little difficulty in obtaining a ton of sugar to the acre on the better class of tillage lands of the State. If one-half the number of acres in the State now planted with corn were planted with beet, the product would give forty pounds of sugar to each inhabitant. It is suggested, as the most feasible plan for an experiment, that an association be formed, with a capital of $200,000, to take the beets from the farm and manufacture the sugar. In conclusion, it is stated that the college is now in condition to educate 100 young men, which is all the dormitories will properly accommodate. Notwithstanding the generosity of the State, there is an urgent need of a building for a chapel, library and museum, to cost not less than $50,000. There should be erected also, two large buildings for dormitories, capable of accommodating 100 students. They would cost $30,000 each.

Wesleyan University, (Middletown, Conn).—The following are the appointments for the Junior Exhibition, Wednesday evening, March 20: Hinckley Gilbert Mitchell, Alfred Charles True, George Henry Smith, George Henry Towle, Hubert Hull Coston, William Barnard Coleman, Jr., Isaac Henry Packard, George B. Foote Hinckley, Joel Osmon Sherburne, Everett Oliver Fiske, Henry Thorne Sell.

For the coming season, '73 have ordered a paper shell from the Troy builders, and '75 proposes to purchase a similar craft very soon. '74 has sold its shell to Trinity.

Mr. G. Brown Goode, curator of the cabinets, is in Bermuda on business connected with his department. He reports flattering success and excellent prospects for securing a large collection of tropical animals and plants for the cabinets in Judd Hall.

The "Olla Podrida" will be out soon.

Base ball is at a great discount for the simple reason that there is no ground on which our nines may practice.

The "commons," which was started last term under so flattering auspices, is dying fast, and will soon, in all probability, be extinct. If it had been started and managed in the proper manner there would have been no trouble found with it; but as it is, its decease is the natural result of its management. We hope another attempt will soon be made in the same direction but that the establishment will be conducted by its patrons instead of by outsiders.

The last COURANT contained an article on expenses at Yale, which calls forth the statement that a person can get along here very comfortably and respectably for $300 per year.

Prof. Van Benschoten who has been seriously ill for a week past, is now able to be out and to attend to his recitations as usual.

The Sophomores are rejoicing at their finishing of "Analytics."

There has been received recently at Judd Hall, a large collection of models from the Patent office at Washington.

Several thousand dollars are being expended in remodelling the front of the new chapel.

An attempt is being made to secure a pipe-organ for the upper story of the same building.

Fourteen Wesleyan students have been engaged in teaching during the Winter.

This term closes March 20th, and a vacation ensues until April 11th.

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Dr. Johnson has lately revised his Chemistry, and adapted it to the present requirements of a text-book on that science. The *eighth edition* of the work is just published. We understand that two other members of the faculty are engaged in literary labor, and hope soon to announce the works in preparation. COSINE.

Middletown, Conn., Mar. 13, 1872.

Yale College, (New Haven, Conn.)—In addition to what was announced last week in reference to the doings of the Corporation at its recent meeting we learn that the old matriculation oath has been changed so as to read as follows: "I hereby acknowledge the obligation on my part, while I remain connected with Yale College, of which, by this act I become a member, to submit to the authority of the Corporation and Faculty." Also that the regulation in the college laws forbidding students to board at hotels was repealed, leaving the power of receiving board returns and objecting to boarding places as before in the hands of the Faculty. The old committee on the building of a new chapel was reorganized, and President Porter was placed at the head of it. Action looking toward the new structure was taken, but nothing definite was done. A grant of $2.000 was voted for the purchase of apparatus etc., for the department of Physics and Chemistry. Prof. A. W. Wright who is to give his entire attention to his duties at Yale in the future, goes abroad soon to expend the sum thus voted. He will hereafter instruct in Physics thus taking from a tutor, at least a portion of the instruction in Natural Philosophy, a change which has long been demanded and one which will surely gratify all acquainted with the circumstances. The question of making some change in the Sunday services was discussed, but no definite action was taken. The names of several clergymen to fill the vacancy caused by the recent death of Rev. Dr. Jones, were brought up for consideration, but no election was made. The committee to which we referred last week, who are to have charge of the coming election of the alumni members of the Corporation is composed of Ex-President Woolsey, Rev. David S. Brainard of Lyme, Conn., Franklin B. Dexter, Secretary of the Corporation, Rev. Jos. H. Twichell of Hartford, Conn., and Frank E. Kernochan, Esq. of New York City. This committee have full control of holding the election, which it will be remembered occurs on the day before Commencement; are to designate the hours during which the voting will take place, and will also appoint tellers to receive and count the votes.

The Historical Lectures which have been in progress on Sunday Evenings at the Sheffield Scientific School will be continued during the next two or three weeks. Last Sunday Professor Hoppin gave a lecture on "Mahomet and the Mahometans." Next Sunday Professor Fisher is to lecture on the "Forerunners of the Reformation,"—one of the themes which he discussed in his recent course of lectures before the Lowell Institute in Boston. Week after next (April 1) Prof. Wheeler will lecture on "Luther and Zwingle." The hour is half-past 6 o'clock.

Professor Lyman gave a very interesting lecture on the Telescope in the Mechanic's Course at the Scientific School last Monday Evening. The principles on which the construction of telescopes depend were clearly explained and their construction described. Examples of different kinds and sizes of telescopes were also noticed and some fine views were projected on the screen.

Mr. Frank W. Howard of the Junior Class, recently died at his home in Brooklyn. He had enjoyed poor health much of the time during his course. At the funeral which was attended on Tuesday last, a large number of classmates and friends in other classes were present. Resolutions of respect and esteem were passed by the class and by the Psi Upsilon society to which he belonged.

The athletic exercises for the coming summer, as far as they can be decided upon at present, are to be as follows: 3 flat races, 100 yds., half mile and one mile; running high jumps, standing high jumps; running long jumps, standing long jumps; two hurdle races, 12 and 15 flights; walking race, one mile; heat race, 300 yds., best 2 in 3; throwing base ball; three legged race, sack race; consolation race for all who have not taken a prize. The day fixed upon is the third Wednesday or Saturday in next term. Definite rules will be made and published immediately after the beginning of the term.

Boating matters are exciting attention. The necessary repairs to the boat-house will soon be made, and there seems to be commendable energy in the officers in reference to the condition of the boats and property of the club in the boat-house. Mr. White, whose interests are so closely connected with the patronage of the students, has liberally agreed with the President of the club, to put up prizes for single scull races at such times and on any conditions arranged by the Y. U. B. C. A cup quite similar to that given by him last year, and valued at $25 will be the first prize, and will be rowed for as early as the weather and water on the Quinnipiac will permit. Any person in the university will be allowed to contest in this race, on application to the President and Secretary. The annual convention of the N. R. A. of A. C. has been called at the Bay State house, Worcester, on the 12th of April.

It is announced as probable that the proposed football match with Columbia College, will not come off.

It is affirmed that the *Lit.* editors of '73 were grieved and discouraged when the present board asked them for twenty dollars apiece for an initiation supper.

The publication of Rev. Prof. Henry Ward Beecher's lecturers, on preaching, recently delivered in the Yale Theological Seminary, was begun in last week's *Christian Union*. The theme of the first is, What is Preaching?

Prof. Dana delivered his lecture on Corals before the Senior class and a bevy of young ladies last Wednesday. '72, in spite of the presence of the fair, it is said, behaved with their wonted decorum.

Quite a number of students have applied to be registered for the April election.

F. L. Hall and E. H. Peaslee of '72, and A. T. Bristow of '73, are taking a course in the laboratory of the Medical school.

It is said that Gilmore has sent for the College Choir to sing at the great Boston Jubilee.

There had not been a fire in Guilford for a year. Some of the suspended spent the period of relaxation there, and there were five conflagrations there before they returned to their *Alma Mater*.

A Junior went recently to call on a young lady, and staying rather late and being fearful of waking up the family who had retired, took off his shoes and went to the front door in his stocking feet. Just as he emerged, however, with his shoes in his hand he was seized by a policeman, and only suceeded with great difficulty, after explanations by himself and the lady, in escaping temporary incarceration.

An extra Lecture in the Mechanics' Course is to be given in Sheffield Hall, this (Friday) Evening, March 22d, at 8 o' clock, by Capt. C. E. Dutton, U. S. A., of the Ordnance Department in Washington on "Gunpowder."

YALE PERSONALS.

'31, CLARK. Rev. Thomas M. Clark. S.T.D., Bishop of Rhode Island, commenced a series of articles on "Our Colleges" in the last number of the *Christian Union*.

'41, NORTHROP.—The recent call of the Rev. Birdsey G. Northrop to the charge of the educational interests of Japan, has called forth most flattering expressions of regard from the press of the country. Among the numerous ones which have met our eye, we select the following from the Boston *Congregationalist*: "There can be but one opinion as to his eminent qualifications for the position. He holds a foremost rank among modern educators. His removal from our own State has been too recent to allow us to forget his invaluable services in the cause of popular education, during the period of his connection with the Massachusetts Board, or the profound and universal regret occasioned by his departure. His labors in Connecticut have been no less successful. The change which has been wrought there is marvellous. By a never failing urbanity and courtesy he has conciliated prejudice and has won the confidence of all classes in his methods. A most important revolution has been accomplished, and Connecticut is assuming a front rank in the cause of popular education."

'46, KINGSBURY.—Frederick J. Kingsbury, Esq., of Waterbury, is the Republican nominee for State senator in his (the 5th) district.

'51, JENKINS.—Rev. Jonathan L. Jenkins, of Amherst, Mass., has been called to the pastorate of the Harvard Congregational Church, in Brookline, Mass. He has however, declined the call and in making the announcement to the people at a recent Thursday evening meeting, he gave as his reason for so doing, his love for the people whom he is now serving. On hearing the announcement from Mr. Jenkins that he was to stay, a member of the church proposed the singing of the doxology, 'Praise God from whom all blessings flow," and it was sung with a hearty good will. The call to Brookline was a very flattering one, and held out many inducements. The parish there is one of the largest and wealthiest in the State, and the salary offered was $5000 and parsonage.

'51, MCCALL.—Rev. Salmon McCall, till recently pastor of the Congregational church at Old Saybrook, has accepted a unanimous call to the pastorate of the Congregational church at East Haddam.

'53, MCVEAGH.—Wayne McVeagh, son-in-law of Simon Cameron, is lying dangerously ill with typhoid fever, at his residence in Harrisburg, Pa., having contracted the disease during his connection with the Shaffer murder trial there recently.

'66, MILLER.—John E. Miller who is in business in his native place, Oxford, N. Y., has lately taken to writing for the press. A recent number of the Chenango *Telegraph* published in Norwich, an adjoining town, contains nearly a column of interesting Oxford locals from his pen.

'66, ROYCE.—Chas. H. Royce, who has been in business with his father in Albion, N. Y., under the firm name of O. Royce & Son, has withdrawn from the firm and gone into the commission business in Toledo, O.

'68, S.S.S. AUSTIN.—L. L. Austin is draughting for the Ohio Falls Car & Locomotive Works, Jeffersonville, Ind.

'68, AYRES.—R. W. Ayres is improving in health and expects to sail for Europe this Spring.

'68, BREWSTER.—C. B. Brewster, lately a tutor, and now about to take orders in the Episcopal church, has been called to assist the Rev. G. H. Deshon, D.D., Yale, '40, rector of St. Andrews Church, Meriden, Conn.

'68, COATS.—John Coats is practicing law in Chicago with the firm of Jones & Gardner.

'68, COWELL.—Geo. H. Cowell, who still continues the practice of the law in Waterbury, Conn., and who is chairman of the Republican city and town committees, was recently commissioned First Lieutenant, of Co. A, 2d Regiment Connecticut National Guard. This company bears the name of the Chatfield Guard, and is considered the "crack company" of the Naugatuck Valley.

'68, DEFOREST.—Rev. J. H. DeForest, who has been preaching very successfully and acceptably in Mount Carmel, Connecticnt, has been bereaved by the loss of his wife, who died on Friday, March 15th. The funeral was attended on the following day.

'68, S.S.S. NEEDHAM.—C. K. Needham is draughting for the Louisville Bridge & Iron Co.

'68, WELCH.—Gideon H. Welch is practicing law in Wolcottville, Conn. He has a fine practice and is regarded as one of the most promising young lawyers of the Litchfield county bar.

'69, COPP.—Some time after his admission to the Minnesota bar last Fall, A. J. Copp went to San Francisco, where he remained until about the first of March. At that time he took a sailing vessel for New York, by way of Cape Horn.

'69, S.S.S. NELSON.—Edward T. Nelson is now professor of Natural History in Wesleyan University, at Delaware, Ohio.

'70, S.S.S. BALLARD.—C. T. Ballard is assistant to U. S. Marshall, E. H. Murray, Louisville, Ky.

'70, HUME.—E. S. Hume, who has been teaching in Millbury, Mass., for nearly two years past, is spending a portion of his Spring vacation in New Haven.

'70, LEWIS.—E. A. Lewis, is taking a course in Medieine, in New Haven, and also a course in Chemistry in the Sheffield Scientific School.

'72, T. BURROWS.—E. B. Burrows, of the Senior class in the Theological seminary, has received a call to the Congregational church at Lebanon, O., near Cincinnati. He will probably accept.

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GLEANINGS.

PERSONAL.

— Prof. G. W. Hyde has entered upon the financial agency of William Jewell College.

— Prof. Carter of Williams, has gone South to recruit his own and wife's health.

— Rev. W. J. Reid of Pittsburg, Pa., has been elected President of Westminster College, O.

— Rev. R. D. Black is appointed an agent to secure money for East Tennessee Wesleyan University.

— It is rumored among the New York Alumni of Williams' College that President Hopkins contemplates resigning at the next Commencement.

— The Rev, Dr. Wilson has resigned the Presidency of the Huntsville Female College, the resignation to take effect at the close of the present session.

— The course of lectures which Dr. Cocker has delivered on Sunday afternoons to the students of Michigan University, are soon to be published in pamphlet form.

— President Dashiell, of Dickinson College, reports an increase of forty-three students in that Institution last year, and a prospective increase of sixty during the year to come.

— The Archbishop of Cologne has formally excommunicated Profs. Hilgers, Knoodt, Langen, and Rusch, of the University of Bonn, for their rejection of the dogma of papal infallibility.

— President Fraser of the Kansas State University, is now East examining various methods of heating public buildings by steam, with a view of securing the best plan for the State University.

— The Rev. Dr. Cyrus Hamlin, President of Robert College, Constantinople, preached in the Central Church Boston, last Sunday morning, on the history and present aspects of religious movements in Turkey.

— Mrs. Eckard, wife of Prof. Eckard, of Lafayette College, recently died at the home of her brother, Rev. John Leighton Wilson, D.D., Columbia, S. C., whither she had gone for the improvement of her health.

— Rev. Herman Schaeffer, pastor of the First German church of New York city, has been elected, by the Executive Committee of the Rochester Theological Seminary, to a Professorship in the German Department of that Institution.

— Prof. Mead has returned to Oberlin from his trip East with pledges for over $8,000 for "Council Hall." Its walls will go up this summer. It will need $25,000 to erect them and put on the roof, of which sum about $18.000 has been secured.

— Prof. Francis L. Patton, of the Northwestern Theological Seminary, is only twenty-nine years old. He was born at the Bermudas. His father, in early life, was a seaman. He studied at Knox College, Canada, afterward at Princeton, N. J.

— Prof. Tenney of Williams College has been engaged by the school committee of New Bedford to deliver a course of six lectures on geology for the benefit of the teachers and scholars of the public schools of the city. The expenses are to be paid out of the Sylvia Ann Howland fund.

— President William H. Allen of Girard College, Philadelphia, who was recently elected president of the American Bible Society, was born in Manchester, Maine March 27th, 1808. He graduated at Bowdoin College in 1833, and then studied law. He did not practice it however, but devoted himself rather to teaching, first as Professor in the Oneida Methodist Conference Seminary, at Cazenovia, N. Y. ; then Principal of the High School at Augusta, Me., and next Professor in Dickinson College, Carlisle, Pa., and after Dr. Emory's death was acting President for a year. In 1849 he was unanimously elected President of Girard College. Having remained here twelve years he resigned, and was then called to the Presidency of the Agricultural College of the State of Pennsylvania. But Girard College again brought him back in 1867, and he is now at its head.

COLLEGE.

— It is affirmed that Humboldt College, Iowa, has been offered to the State for a Normal School.

— Princeton Theological Seminary has now 110 students—twenty-eight of them from Pennsylvania.

— Collections are being made among the students of the Vienna University in aid of the Arctic Expedition.

— In the Madison University, New York, are four natives of Burmah, two in the senior class, and two in the junior.

— There is talk of changing the name of North Western Christian University at Indianapolis, Ia., to Butler University.

— There is a call from the University at Lewisburg, Pa., for a gift of a thousand dollars to provide seats for the recitation rooms.

— The Williams, juniors, having finished political economy, are now studying Roman history, from Rawlinson's Ancient History.

— Fifty-two graduates received the degree of M.D., at the 24th annual Commencement of the Hahnemann Medical College of Philadelphia.

— At the recent Commencement of the Jefferson Medical College of Philadelphia, the degree of M. D. was conferred upon 114 graduates.

— Rochester University is likely soon to have $100,000 added to its endowment. Two gentlemen have given $20,000 each, and one $15,000.

— Cornell College and the Church at Mount Vernon, Iowa, are visited by a thorough revival,in which about one hundred persons have been converted.

— Walt Witman has been requested to introduce his "Famous Female" friend to the literary societies of Dartmouth College at the July Commencement.

— The philosophical instruments of Stewart College, Clarksville, Tennessee, destroyed during the war, are being replaced by others of superior construction.

— At the recent Commencement of the Chicago Medical College, there were twenty-two graduates, one of the largest classes that has ever left the institution.

— Lafayette College, Easton, Pa., has received a donation of $200,000 to build a large scientific building, which is to be 256 feet long, about 50 feet deep, and four stories high.

— Ground will be broken for the new building, at North Western Christian University, early in the spring. Sixty-five thousand dollars have already been subscribed towards its erection.

— The fine medalion portrait of Randolph Rogers, the celebrated artist, recently purchased in Rome, by C. C. Trowbridge, for a gift to Michigan University has arrived at its destination.

— The Department of Industrial Arts is to be opened immediately, in Syracuse University. Four hundred models have arrived, of 36 classes. A Hall of Industry is called for by *The Northern*.

— Of the Bowdoin seniors, six are going to study law, seven are looking forward to the ministry, two intend to be doctors, two will teach, two go into stock-raising, and the remainder are undecided.

— The Medical department of the Southern University has opened under good auspices. Students who are preparing for the ministry can attend the lectures in in this department free of charge.

— The Harvard nine is restricted to Saturdays for playing during the coming season, and all clubs who desire to arrange matches with them should address their secretary at Cambridge as soon as possible.

— The corner-stone of the Female Normal College of New York, at Sixty-eighth street and Fourth ave., was laid Tuesday afternoon last. Addresses were made by Commissioners Bernard, Smythe, and William Wood.

— Forty-three graduates of Williams College, belonging to different classes from 1815 to 1863 have been at different times professors in Colleges. Of this number, twenty-seven, are now professors, nine of them being in Williams.

— A professional chair for archæology has been added to the University of Strasbourg. It will be occupied by Professor Michaelis, of Tübingen. The University authorities are in search of residences for the expected professors.

— By a recent act of the trustees of Mt. Union College, at Mt. Union, O., the sons and daughters of ministers having charge of a congregation, are admitted to any department of the College on half tuition. Ministers of all denominations are included.

— In the Medical Department of the University of Pennsylvania, at Philadelphia, the degree of Doctor of Medicine was recently conferred on 80 graduates. The validictory address was delivered by D. Hayes Agnew, M. D., Professor of Surgery.

— The University of Nebraska, located at Lincoln, the capital of the state, has an endowment in lands that will soon be worth a million of dollars. This year the state has expended seven thousand dollars on the nuclei of its liberty, cabinet, and apparatus.

— Hillsdale College Mich., founded by the Free-Will Baptists, is making efforts to secure adequate endowment. The citizens of Hillsdale county propose to raise $20,000; parties outside the county an equal amount; the alumni, $10,000; the students, $5,000.

— The Board of Trustees of Jefferson Medical College, at a meeting held on the 8th inst., conferred the degree of Doctor of Divinity upon Rev. Henry Spackman, Rev. J. Houston Eccleston, and the degree of Doctor of Laws upon Hon. James T. Mitchell and Hon. Thomas K. Finletter.

— The interest in the forthcoming race between the Oxford and Cambridge crews is increasing. The men are out daily for practice, and their rowing is witnessed by large numbers of persons who gather along the shores. The betting is now seven to four in favor of the Cambridge crew.

— At the recent Commencement of the Woman's Medical College in Philadelphia the degree of M.D., was conferred upon thirteen graduates, residing in Pennsylvania, New York, Ohio, Maine, Massachusetts and New Hampshire. The Valedictory address to the graduates was delivered by Prof. Henry Hartshorne, M.D.

— The fifty-first annual Commencement of the Philadelphia College of Pharmacy took place on Friday, March 15th. The degree of Graduate in Pharmacy was conferred on 59 graduates. Prof. J. M. Maisch delivered the valedictory address. At the close of the address a very fine balance was presented to the college by the graduating class.

— The Board of Directors of the newly organized Agricultural college of Alabama at Auburn, consists of the Hon. C. C. Langdon, Mobile; Col. G. P. Harrison, Auburn; Hon. M. L. Stansell, Carrollton; Hon. Mr. Osborne, Moulton; Hon. Henry Lightfoot, Stevenson; Col. Robt. Tyler, Montgomery. Col. W. H. Barnes, Opelika, is the member for the State at large.

— The committee on education of the Alleghany Annual Conference, at the recent session of that body approved of Otterbein University as follows: Resolved that Otterbein University, with its magnificent central edifice and elegant halls, with an able and accomplished faculty, affords marked inducements, alike for cheapness and thoroughness of instruction, with ample facilities for the education of all who may attend.

— The forty-second annual Commencement of the New York College of Pharmacy, was held last Tuesday evening in Association Hall. Prof. William Hegeman, President of the College, presided, and conferred the degree of Graduate in Pharmacy on nine students. Prof. Chandler delivered the valedictory address. The prizes were distributed as follows: First prize, $100, Augustine G. Caille; second prize, $50, to J. H. Tucker, of Baltimore, who also won the Alumni Association prize, $50, for the best thesis; third prize, $50, to Charles F. Ringler, of New York; fourth prize, $50, to Frank S. Jones, of New York, who also won the Squires prize.

— An Educational Convention recently met in Nashville, to inaugurate steps for the removal of Greenville (S. C.) Theological Seminary to Tennessee. Resolutions were adopted looking to the raising of $100,000 in the State, and a committee was appointed to present an address to the Churches, with the view of interesting them in this matter, and to solicit proposals from different towns and cities in the State desiring its location in their midst. The widow of ex-Governor Brown proposes to donate several acres of land, eligibly situated, provided the Seminary be located in Nashville. Also the State University, in Nashville, made liberal propositions to the Convention, Dr. J. P. Boyce addressed the Convention, favoring the concentration of institutions.

YALE COLLEGE.

All graduates of Yale College qualified to vote at the election of Fellows at the next Commencement, are invited to send, over their signatures, to the undersigned, before May 1st, the names of six persons whom they desire to nominate for the office of Fellow. The names of all candidates thus nominated by more than twenty-five electors, will be subsequently announced.

By the Legislative Act, "All persons who have been for five years graduated as Bachelors in any of the Departments of Yale College, and all persons who have been admitted to any higher degree in Yale College, whether honorary or in course," may vote and may be voted for in the coming election.

By order of the Corporation,

111. FRANKLIN B. DEXTER, *Secretary*.

CRIMINAL NEGLECT—A family of children in a house without William's Extract Jamaica Ginger. 70

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MARK HEBER'S LUCK.

AN INDIAN STORY.

Mark Heber returned home from his father's funeral with the problem of his own future pressing upon his thoughts, and demanding a prompt solution.

His home had been, from his earliest remembrance, upon a stony, worn-out farm of fifty acres, situated upon the Seneca Lake, in Western New York. His father had become so heavily involved in debt, that two weeks before his death the farm had been sold by foreclosure of morgage.

And now what was Mark to do?

He was a lad of nineteen, slight and boyish in frame, but with the strength of a man in his sinewy arms. He had had the usual advantages of education afforded to farmer's sons.

He had returned home from his father's grave to the small, unpainted story and a half house, and after him came his father's only brother, a well-to-do farmer, who resided in the neighborhood.

This uncle, Mr. William Heber, was a man of sixty years, pompous and self-important. His soul was of smallest pattern, and he had never been known to do a generous deed, while he had done many mean ones.

"Well, Mark," said his uncle, "I've sent my folks on home, so that I can have a good talk with you. Morgan tells me he wants the farm. He has held off two weeks while George was dying, but he wants to move in next week. What are you going to do?"

"I don't know, uncle, I am trying to think. What can I do?"

"I have thought the matter over," said Mr. Heber, "and have thought upon a plan. I am willing to take you, Mark, and treat you as my son. You shall have a home at my house, and a seat at my table. What do you say?"

"You forget, uncle that I have some one to provide for besides myself," said Mark. "Suppose I were to accept this offer of yours, what will you do for Gay?"

"The girl is no relation of yours, Mark."

The boy sighed.

"Poor little Gay," he said; "hers is a hard lot. "Do you remember how the child came by her name? It is thirteen years this spring since a lady stoped at our door and asked leave to remain over night. She staid on day after day, growing weaker and weaker. It did not take long to discover that she was insane. She called the child Gay, and sometimes Gabrielle, which was Gay's true name. But she did not tell her surname, nor anything concerning herself. Late that summer she died. No one ever came to inquire after her or the child."

"Her mother was a crazy tramp, and nothing more. No wonder George was behindhand, when his wife adopted the child of a tramp and brought her up a lady," said his uncle.

Mark colored.

"I cannot hear a word against my mother," he said. "I shall protect Gay while I live, and she shall not be separated from me."

"Then I wash my hands of you," exclaimed Mr. Heber angrily. "You can go your own way, and get your own living."

"Very well, sir," said Mark quietly; "that is settled then."

In one week Mark had sold a pair of colts which he had raised himself, for five hundred dollars, the household furniture for nearly as much more, and was on his way, with little Gay, to the far West, to seek their fortune.

The young travelers arrived at Leavenworth after a long and fatiguing journey.

Here Mark, while looking for a wagon and a yoke of oxen with which to cross the prairies, fell in with an old farmer named Whitman, who had been living in Western Kansas, but did not like it, and was now on his way to Nebraska. Mark concluded to join him, and Mr. Whitman assisted him in purchasing a suitable outfit, and that same night Mark and Gay were snugly ensconced in their huge traveling wagon, outside of the city, on the edge of the prairie, where Mr. Whitman, with his wife and seven children, had encamped. Six other families were with them—the seven wagons being "parked" in the form of a circle—that is, the pole of one wagon resting upon the rear of another—and the oxen, mules, horses, cows, dogs and pigs being gathered into the circle thus protected.

Outside the circle of wagons a great fire was burning, and as Mark's wagon drove up, the conductor of the train, Mr. Landford, came forward and welcomed the newcomers.

It seemed to Gay and to Mark that they had entered a new and wondrous world.

Both lay long awake that night in their wagon, close up under the canvas roof, and they talked in whispers of their great future, and wondered what it had in store for them.

The next day at daybreak the camp was astir. By sunrise the wagon train was on its way toward the north-west.

At night they halted beside a small stream and packed the wagons, and had supper, and talked and sang songs and told stories, like one great joyous family.

At daybreak, again they were on the way.

In the course of ten days, having traveled rapidly for ox teams, they reached the Little Blue river, a branch of the Big Blue. The women built fires and began the preparation of supper. The men proceeded to park the wagons.

"The last train I took over this route was attacked by the Indians just here," said Conductor Landford. "They were unusually bold, and we had a tough fight — Good Heavens! What is that?"

He beheld, by the last rays of the sunset, a mounted band of Indians, their weapons glittering in the yellow light, their plumes nodding in the wind, as they came on like a whilwind.

"*Indians!*" yelled the conductor, in a voice that made every woman's face turn white, "Pawnees or Sioux, I can't tell which. They seem to be on the war path. I can see their weapons. They outnumber us, counting in our women. Call in the children. We shall have to defend ourselves."

He blew a shrill blast on his bugle that rang out far and wide. They were sweeping down upon the train, with whoops and yells, murder and rapine in their very aspect.

Conductor Landford was skilled in Indian warfare, and was a scout of considerable note.

"There are twenty savages," he announced. "Remember, boys, you are fighting for your mothers and sisters. Show us what stuff you are made of."

Then he shouted:

"Now, men, the gun! Have out the gun! They are in the war paint, and mean mischief. When I give the word, fire!"

The Indians came nearer and nearer, advancing in a straight line.

"Now, boys, give them a hint that we are not fooling," said the guide grimly.

Mark Heber and his young comrades fired a volley.

The next moment a shower of bullets came hurling toward the defenders of the camp.

"The gun!" cried Landford. "Give it to 'em Whitman."

Whitman did "give it to them," mowing down three mounted savages, horses and riders rolling over and over in horrible death agony.

The remaining savages again came to a halt, but only for an instant. With a terrific warwhoop, they came on again to the onslaught, firing as they came, and looking like incarnate demons.

"All together!" cried the guide.

The other men and all the boys fired, each with especial aim. Six mounted savages fell before the deadly rain.

A panic immediately seized upon the survivors. In the midst of it, Whitman grimly touched off his field piece anew.

This ended the conflict. The savages with horrible yells beat an instantaneous retreat, leaving their dead upon the field, and dragging away their wounded.

Amory had a bullet wound in his shoulder, and Arnold's eldest son had a flesh wound in his arm, but neither of these injuries was serious.

"Are you safe, Gay?" demanded Mark, coming towards her.

"Yes, but I'm almost smothered," answered Gay. "Have the savages surely gone, Mark?"

Gay cautiously crept forth while she was speaking. The remaining wagons disgorged their crouching occupants, women and children coming forth pale and trembling, but full of joyful gratitude at their escape from death, or a fate worse than death. The camp took on its usual appearance even before the retreating savages were entirely lost to view in the far distance. That night they encamped upon the prairie, and met with no adventure. A guard was maintained as on the previous night, but no Indians were to be seen.

Every day for the week that followed the encampment on the Little Blue was full of incident, but all of the pleasant sort, nothing occurring to alarm the emigrants.

And at the end of the week, to their great joy and relief, they arrived at Fort Kearney.

The emigrants did not halt at the fort, but pressed on to Kearney City, where they encamped just at nightfall.

Here Conductor Landford found another train, the guide of which had been stabbed the night before by a notorious man, who had escaped arrest. The train was offered Landford to be united with his own.

The assault that had been made upon the conductor of the previously arrived train was made a matter of discussion, and regret that his assailant had escaped was universal.

"I know the fellow who dirked the conductor," said Landford. "He is a perfect demon. I know that he has killed several men. I saw him at Denver last year. He had just stabbed a miner from behind, and robbed him of all his money and gold. He is called Blue Jack."

"Blue Jack!" cried one or two boys. "What a name!"

"They call him so because one side of his face is blue, as if bruised," said Landford. "Looks as if the blood had settled under the skin."

The new train was bound for Denver, as Landford had said.

Two wagons belonged to men who had no women with them. There were five of these desperadoes, and only the smallness of their number as compared with the others induced Landford to allow them to travel under his guidance and the protection of his train.

A few introductions took place, and then the long train took up its line of march westward.

During the noon encampment, on the following day, Gay had finished her dinner, and a merry snatch of song was on lips, when one of the desperadoes known as Burk came up to her, and paused beside her, regarding her with an insolent stare.

"Hallo, younker," he said gruffly, "I noticed you yesterday, and you are the prettiest young one I ever did see. Got no father nor mother, eh? Going west with your brother, eh? Give us a kiss, there's a doll!"

In an instant she leaped to her feet.

Child as she was, she resented the insult that had been offered her with a woman's offended pride and anger.

"How dare you?" she cried. "Go away. If you touch me I'll call my brother."

"Ah, now, young one, you're fooling," he said insolently. "You act older than I took you for. I'll warrant no boy except your brother has kissed them lips o' yourn, and I'm bound to have one—so now!"

As quick as a flash, she drew from her pocket a pistol Mark had bought for her at Leavenworth, and which he had since taught her to use skilfully. She cocked her pistol, and its four small dark tubes were promptly presented to the eyes of Burk for inspection. He started back in unaffected horror and amazement.

"The little vixen!" he muttered. She acts like a highwayman instead of a shrinking girl. She beats all!

"I was only fooling," he said aloud. "I didn't mean nothing. Don't say nothing, young one. I'm off."

And he hastened to beat a retreat to his own proper quarters.

Gay's light laugh rang after him mockingly.

"Curse her!" muttered Burk. "Blue Jack would tame that wild-cat spirit of her'n, and I wish he may do it, that's all. I'll make 'em acquainted, blest if I don't!"

The train was ready to resume its march.

"Come up into the wagon, Mark," said the girl coaxingly. "I have something to tell you."

Mark climbed up beside Gay, his boyish face full of tenderness and affection as he looked down upon his adopted sister.

"Well, what is it, little Gay?" he said, as she hesitated.

"Have you noticed that man Burk, who joined us with the other train at Kearney City?" asked Gay.

"I've seen him and noticed him," said Mark, "Mr. Landford has a poor opinion of him. He's a confederate of Blue Jack, the outlaw. What have you to say about him, Gay?"

"He wanted to kiss me back at the halt," said Gay composedly, "and, as you were busy, I just pulled out my pistol and scared him. He thought I meant to shoot him, and went off to the rear of the train."

Mark's boyish brows grew stern, and his eyes flashed.

"The coward and villian!" he exclaimed. "I'll horsewhip him for that. How dared he?"

"Don't get into trouble on my account, dear Mark!" exclaimed Gay, in alarm. "He's a bad man, and he might kill you. He didn't kiss me, and I have taught him to keep his distance, so that he won't trouble me again. Don't speak to him, Mark, please don't!"

But Mark would not promise.

About sunset Landford beheld in the distance a solitary horseman, who, upon looking back and observing the train, wheeled his horse about, and rode rapidly toward it. As he approached it, he said:

"Are you the conductor of this train, sir? I am bearer of dispatches from Fort Kearney to Fort Sedgwick. Will you grant me the protection of your train during the remainder of my journey?"

"What is your name?"

"Fallon, Lieutenant Fallon," was the reply, and he offered to show his credentials.

Landford bade Lieutenant Fallon welcome, and offered him the freedom of the camp.

Fallon ate supper with the Whitmans, and after conversing until a late hour, re-

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tired to the rear of the train to sleep. After all was still, he rolled over on the ground until he came to the side of Burk.

"Burk!" he hissed.

Burk started, with a smothered oath.

"Who calls?" he growled.

"Hush, you idiot!" hissed Fallon, between his teeth. "Have I fooled you and the boys as easily as I fooled the conductor of the train? Don't you know me? I haven't got my card-case with me, but I'm Blue Jack, at your service! Ha, ha! The serpent has got into Eden!"

"I and the boys have looked for you to join us all day," said Burk. "But of course we did't look for you in this disguise."

Upon the morning after the counterfeit Lieut. Fallon had joined the wagon train the camp was astir as usual at daybreak The train halted at noon on the river bank, opposite a lovely island. At sunset they again halted, and for the night.

In the course of the evening Lieut. Fallon approached Gay, and said:

"Miss Heber, I must say to you that you are startlingly like a former friend of mine. It seems almost as if she stood before me as I first new her. It is a strange, a startling coincidence. I could almost think—but no. Impossible! You are the sister of Mr. Heber, are you not?"

Gay's pure face flushed.

"Yes," she answered, with some hesitation.

The disguised Blue Jack turned yet whiter. He had marked that hesitation, and his wonder at it thrilled him with a sudden fear.

"You do not look like your brother, Miss Heber?" he remarked.

"I have been told so before," said Gay dryly.

"And you are his own sister?" persisted Blue Jack, with agitation.

"I do not know your motive for making such enquiries, Lieutenant," said Gay, after a moment's thought. "I do not therefore know how to reply to you. I should like to know the name of your friend whom I resemble, but for an answer to your inquiries I must refer you to my brother."

Gay Heber seized the first opportunity to inform her adopted brother of the particulars of her singular interview with the false Lieut. Fallon.

"I told him to speak to you Mark," she said, "but my heart has been on fire ever since. What if he should have known my mother?"

"He looked like death when he first saw your face, Gay," said Mark thoughtfully. "It was as if he had seen a ghost."

Gay started, and exclaimed:

"From the moment I beheld the man I shrank from him. I had an instinctive fear and abhorrence of him. Oh, Mark, dear Mark, don't let him know any more about me than he knows now!"

"I will not, Gay," said Mark soothingly.

"If he is your father, he shall not know that you are his daughter."

The promise comforted Gay, who smiled faintly through the gloom that had fallen upon her.

As some young people came towards the Hebers, Mark arose abrubtly, and went to look after his oxen.

Gay was about to join Mark, when the false Lieutenant approached him, offering him a cigar.

"Fine evening Mr. Heber," said the disguised Blue Jack courteously. "What! You don't smoke? Smoking is a vice. I wish I could break myself of it. Your sister is a lovely child, or girl, I should say. She must be fifteen years old. Is she not?"

"She is but a child yet, lieutenant—only fourteen—yet she is more womanly than many girls of eighteen."

"Only fourteen," said the pretended lieutenant musingly. "I—I had a fancy that she was fifteen. I knew a child once —perhaps she's dead now—but if she were living she would be fifteen years of age, and the very picture of your sister. And oddly enough, that child's name was the same as your sister's—Gabrielle."

Mark repressed a start, and turned away his paling face from the keen scrutiny of the scheming villian.

"The child I alluded to," continued the false lieutenant, "had black hair and brown eyes; rather a singular combination; but her mother, poor creature, had the same features, and had been a great beauty in her day. She was a New York belle, la belle Gabrielle! But she went insane, and wandered away with her child and was never heard of more.

"If you had seen the New York dailies of thirteen years ago," resumed the false lieutenant, "you could not have failed to notice a striking advertisement offering a thousand dollars reward for information of the whereabouts of an insane women and her child. The reward was afterwards increased to five thousand dollars. Did you never hear of the advertisement, Mr. Heber?"

"Never," said Mark. "How should I have seen it?"

"Ah, yes; true. You were but a boy at the time. Yet if you lived near New York, you might have heard of the disappearance."

"I did not live near New York."

"Why, the conductor told me you came from York State," said the false lieutenant.

"So I did," responded Mark.

"May I ask from what part?" inquired the villian.

"Certainly," said Mark. "I come from the western part of the State. May I ask the name of the lady whose disappearance called forth the advertisement of which you speak?"

"Her given name was Gabrielle," said the pretended officer evasively. "If I could get a trace of that insane woman and her child, I would give a thousand dollars out of my own pocket. Think what a start in life that sum would give a young man like you!"

Mark shrank back, as from the touch of an embodied pestilence.

"I can give you no assistance in your search, Lieutenant Fallon," he said coldly.

"Permit me to ask if Miss Heber is your own sister, born of the same parents as yourself?" demanded the pretended officer abrubtly.

"I do not tolerate any intrusion into my private family affairs, Lieutenant Fallon," said Mark haughtily. "My sister has already been annoyed by your questions in regard to her history, and I must request you to leave us alone."

"I beg your pardon, Mr. Heber," said the villian, adding maliciously, "I see this is a sore subject with you. You have not said Miss Heber is your own sister. I presume you cannot say so truthfully."

"We will not discuss the matter sir. Gay Heber is my sister, and while I live she shall not lack for a protector."

"Ah, yes," said the pretended officer, using his favorite phrase of assent. "Brothers are not usually so devoted to sisters as you seem to be, Mr. Heber."

That evening Gay, whose curiosity had been stimulated by what had taken place, to find out something more about her parentage, was examining some jewels which had been left by her mother, and some trinkets which she had possessed when a child. She had taken them from a little box in the bottom of her trunk, and thought herself perfectly secure under the cover of the wagon, when she suddenly detected the false Lieut. Fallon peering at her through a hole which he had cut in the canvas. All this she reported to Mark.

On the following day Mark had a violent altercation with the pretended lieutenant.

No one had eyes or ears for anything but this exciting scene, and it thus happened that a small body of horsemen in the uniform of the United States had come up, and had dashed into the very camp before their approach was noticed.

A loud bugle call from the head of the troops was the first token the emigrants received of the new arrival.

In a moment the combatants were loosed and all eyes turned to the new-comers.

The disguised Lieut. Fallon looked and turned faint. He knew what this visit meant, if no one else did.

"Conductor," shouted the leader of the troop,, "we are here in search of Blue Jack, the noted desporado, accused of the attempted murder of Lieutenant Fallon of the United States army, whom he brutally attaked and flung into the Deep Canyon as dead. The lieutenant is now at Fort Kearney, in a critical condition, and we demand his would-be murderer!"

The emigrants had listened with breathless amazement to the announcement of the officer in charge of the small detachment of troops. They were actually spellbound. Not so the person most interested in the announcement—Blue Jack himself.

The desperado had comprehended the errand of the troops in the first moment of their appearance. At the first sensations of faintness and terror, he had recovered his coolness and courage, and was himself again.

At the very commencement of the officer's announcement, Blue Jack exchanged glances with the terrified and cowering Burk. The latter pointed one trembling finger over his shoulder to a spot at a little distance, where Blue Jack's horse stood grazing, saddled for use.

In an instant the chief desperado darted under the wagons towards the waiting horse. He reached him and leaped upon his back.

And in the next moment that desperado rose gracefullyin his stirrups at the distance of a few rods, and with the fierce defiant yell of a wild Indian, dashed his spurs into his horse's side and was away like the wind.

The troops gave an answering yell of surprise and anger, and the officer in command led the swift pursuit.

Blue Jack had the advantage of a good start, and was splendidly mounted, his horse being a seasoned animal, born and bred on the plains, and endowed with great life and spirit.

Blue Jack laughed aloud as the strong animal bore him onward as if he had been a feather's weight. He rose again in his stirrups, and shouted back defiantly:

"Come on. Take Blue Jack if you can!"

The pursuing officer shouted to the outlaw to surrender, but the only reply was a mocking laugh. The officer then fired a shot at the fugitive, but the bullet missed its mark, and Blue Jack, bending low on his horse's neck, and digging his spurs into the animal's sides, swept on and away with the rush of a tornado.

And after him swept the pursuers.

The emigrants watched the pursuit with breathless interest until the foremost figure upon the powerful Indian steed had passed beyond their line of vision.

During the confusion Burk escaped also.

At nightfall they halted upon the south bank of the Platte, and were at supper around their fires when the troops were seen to approach, weary and dispirited—without their prisoner.

"The fellow has escaped us," said the officer.

"You held on to the chase well, Lieutenant," said the conductor.

"I can't bear to go back to the fort without him," was the quick reply. There's excitement all through the fort. Poor Fallon was nearly murdered, and was left for dead. He was flung over in to Deep Canyon, and happened to light in a clump of bushes. There he came to himself, an hour or more afterward, and, more dead than alive, he climbed up to the ground above, and fell down in a dead faint. A party was immediately organized, and sent in pursuit of the outlaw."

The next day they encountered the party of soldiers that had been sent in pursuit of Blue Jack. They had found no trace of the desperado or his companion.

"No use looking for Blue Jack," said the officer in charge of the party, addressing Landford. "There has been a party of Sioux about this quarter for a few days past, and no doubt Blue Jack has fallen in with them. The party is hardly large enough to attack your train, and I understand they have gone up toward Dakotah. Blue Jack has an Indian wife somewhere up there."

Upon the second day after leaving Fort McPherson, the emigrants made their midday halt in a grove of cotton-woods, upon the bank of the south fork of the Platte, at its junction with a wide, tree-fringed river which descended from the northward, and here they concluded to settle.

The site of the village was selected exactly at the junction of two rivers, upon a low bluff overlooking the two streams.

Then a public square was carefully laid out with mathematical exactness.

Then each man's lot was assigned him.

Mark Heber's was next to Whiteman's, on the eastern side of the square, facing west, and his future garden ran back to the edge of the low bluff.

Mark Heber did a man's work, and from the first day of this hard toil Whitman ceased to class the youth among the boys.

In the course of a week, eight strong log houses, each a story in height, and pierced with loop-holes, and each provided with a single capacious chimney, were furnished, and fronted the little naked square.

Mark Heber's house was simply arranged, built upon the plan generally adopted by the settlers. There were but two rooms, one being entered through the other. The inner room was to be Gay's. The outer room was to be parlor, dining-room, kitcken, library, and Mark's bedroom.

"The house is your province, Gay," said the youth, upon the morning after the house was finished. "I shall leave you to furnish it and transform it into a home while I work upon the stockade. If you need my help when the stockade and block-house are finished, I will turn myself into house-carpenter."

"I shan't need you, sir," said Gay saucily. "You attend to the farm, and leave the house to me."

The shelter provided, the eight houses were left entirely to the management of the women, the men working upon the stockade, which was constructed upon strict military principles, and was a model of worth and excellence.

It required two weeks and the labor of sixteen men to complete this work.

Whitman and his family had been living in their house for a week. All the families had moved into their homes save the Hebers, but Gay with a petty tyranny had not allowed Mark to cross the threshold of his house since he had finished it.

Now, when Mark unyoked his oxen turning them loose in his own yard, and drew his wagon under a great cotton-wood in his back garden, Gay called to him with a bright smile, saying that he might enter the house with her.

He came pleased and smiling, but paused upon the threshold in mute amazement.

Was this the room with four rough log walls which he had given into her hands?

Was this sunny little home a log-house on the plains?

In seemed incredible.

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, MARCH 30, 1872. NUMBER 13.

THE YELLOWSTONE NATIONAL PARK.

WHERE IT IS AND WHAT IT IS.

Almost every body who reads the newspapers has seen a great deal about the Valley of the Yellowstone, and has noticed the proposal in Congress to set apart forever a portion of the same as the "Yellowstone National Park;" but with the ordinary maps of our schools and dwellings, and indeed with the more elaborate maps of the engineer department in Washington, it is not easy to fix the site of the geysers, springs, rivulets and peaks of this wonderful region. We propose to help the owner of an ordinary atlas to understand the location of this much talked of Park, in its relation to the physical geography of the Upper Missouri. Let the reader then take up his map of the Western United States, and allow us to point out the site.

Since the early days when Lewis and Clark climbed over the great "Divide" between the waters of the Atlantic and Pacific, our maps have indicated three mountain streams of their naming,—the Jefferson, Madison, and Gallatin, which flow together and constitute the Upper Missouri. A few miles North of their confluence is the thriving town of Helena, capital of the territory of Montana, home of more than three thousand persons, and the ordinary base of departure for explorations in this region. On all our recent maps this town of Helena is a land mark quickly spotted.

The three Missouri tributaries are separated by high hills on their West from the streams which run into the Columbia, and on their East, from the Valley of the Yellowstone. Let us come to this region from another direction. Near the Western central-border of what is now misnamed the territory of "Wyoming," is that lofty peak once suppose to be the highest of the Rocky mountains, and which still bears the name of the Pathfinder,—"Fremont." North of this peak, on the Eastern side of the "Wind River Mountain," and in the Northwest corner of the territory, lies the Yellowstone Lake, a mountain basin, between seven and eight thousand feet above the sea, or more than a thousand feet above Mount Washington in New Hampshire. Its shape is quite irregular, (several bays or arms projecting into the land,) and its extreme length is not much more than twenty miles. On the South, the lake is fed by a stream called the Upper Yellowstone; on the North emerges the Yellowstone proper, which runs a little West of North for nearly one hundred miles, and then veers off to the East, parallel to the Missouri which it joins on the boundary line of Montana and Dakota, a confluence marked by the site of Fort Buford. The region of extraordinary interest is from the Northern outlet of the lake to the Eastward turn in the river, where "Boteler's" ranch, a name referred to by all the travellers, is situated. The descent from the lake to the open valley below "Boteler's" is a fall of about 2500 feet, marked by some of the most wonderful and beautiful scenery of the Continent. High ranges of mountains shut in the water course; "Emigrant Peak" on the right bank having a reputed height of 10,629 feet; and Mount Washburne on the left bank a height of 10,575 feet. There are not only these lofty upheavals, but the erosion of the river has cut out deep cañons, three in number.

If it were possible to descend the river from the northern outlet of the lake, we should soon pass through a region of hot springs, then over the upper and the lower falls, the one 115 feet in height, the other 350 feet. After passing the second fall, we should enter at once the Grand Cañon, a passage of about twelve miles in length, the walls of which are from ten to fifteen hundred feet high; then winding around the base of the Washburne, we should come upon a second longer but more open cañon. After the Yellowstone has received the waters of Gardiner's River on the left, and of other streams on right and left, we should enter a third less difficult cañon, winding around the "Emigrant peak" on the right, and after passing "Boteler's," just below the eastern turn in the stream, we should part from the extraordinary scenery and enter upon the more quiet and open landscape of the middle course.

Retracing our course to the Yellowstone lake we find its waters are but a few miles east of a smaller lake, (not indicated on every map) from which a tributary of the Madison river takes its rise. From this little lake which is called "Madison lake," to the Madison river proper, the stream bears the name of "Fire Hole River." It traverses the two famous Geyser basins of which so much has recently been written. Still a little farther west and south, we come upon streams which run into the Snake river and so, through the Columbia, seek repose in the Pacific.

The Park, now where is that? The proposed "Park" is a square tract, in the northwest corner of Wyoming, nearly fifty miles broad by sixty long, lying chiefly south of the 45th parallel and east of the 111th meridian. It will include the Yellowstone lake, the hot springs at its outlet, the Upper and Lower Falls, the Grand Cañon and the Middle Cañon. It will also include the Fire Hole Valley of the Madison river. This region is not favorable for agriculture or for ordinary homesteads, but it is likely to become more and more a place of resort for those who are interested in natural wonders, as the falls of Niagara, and the Yosemite valley. Hence the wisdom of Congress in perpetually reserving it from the hands of speculators.

Whether or not the Yellowstone lake is the crater of an extinct volcano, it is certain that the entire region is characterised by volcanic phenomena, hot springs, geysers, ejections of mud and steam, volcanic rocks and deposits, etc. It is not a part of our present purpose to describe the scenery or these phenomena. Those who are interested in them can readily find the stories of the Washburne-Langford explorations, in *Scribner* and the *Overland*, the recent report of Capt. Barlowe of the U. S. Engineers, and the preliminary report of Dr. F. V. Hayden published with some excellent local maps in the February and March numbers of the *American Journal of Science*. In the next number of that journal a special map of the "Park" will appear.

MUTILATION OF HYMNS.

For more than a century after the death of Dr. Watts, his devotional hymns and version of the psalms occupied the chief place in all the Congregational choirs in the land. About thirty years ago, selections were made from other authors and bound up with the lyrics of Watts,' and the collection thus made was called "Watts's and Select Hymns." This compilation contained the best hymns extant, from the most celebrated authors.

Recently, however, a score of new books in rapid succession, has been forced upon the public attention, by book-makers and publishers. Each candidate for the popular favor, claims superiority in some particulars, and the churches are substituting new and *improved* books for the old. It deserves notice, however, that the best hymns in the new compilations, are all found in "Watts's and Select." Many of these have been altered to prove the necessity of a change. Some whole stanzas have been inserted in place of those removed; often, only a line or a single word has been altered to prevent the use of the old, and the new books in the same choirs. This is a common trick with men who get out new editions of school books. They alter the pages or the order of topics, so as to compel learners to buy the new book. This process of tampering with the noble thoughts and beautiful expressions of standard authors, deserves the severest reprehension. What right has a modern editor to substitute his own inferior strains for the "thoughts that breathe, and words that burn" of such hymnologists as Watts, Wesley, Cowper, Montgomery, and others? Who desires a revised Milton or Shakespeare? When whole churches and whole families, including parents and children, have committed to memory and sung together the beautiful words of the old authors, it seems a sacrilege for some modern bookmaker with no higher motive than money-making, to substitute his own dull, creeping thoughts for the sublime ideas of the genuises who wrote these hymns.

Most clergymen and most families confine their selections, for worship, to two or three hundred choice songs. Some of these are always sung on special occasions. At the communion service where I worship, the pastor always reads that soul-stirring old hymn, beginning:

"Rock of ages cleft for me."

In the new books this has been, literally made over. The second stanza originally read thus:

"Could my tears forever flow,
Could my zeal no languor know,
These for sin could not atone;
Thou must save, and thou alone;
In my hand no price I bring,
Simply to thy cross I cling."

Recent editors have manufactured the following stanza instead of the beautiful original:

"Could my zeal no respite know,
Could my tears forever flow—
All for sin could not atone;
Thou must save and thou alone!
Nothing in my hand I bring
Simply to thy cross I cling."

In reading, we are reminded of the Portland vase shattered by an insane visitor, and restored by an Italian artist. In other parts of the hymn, single words are changed. In this line, of the first stanza:

"From thy wounded side which flow'd."

We have "riven" for "wounded." Who ever heard it said or sung that a man's side was "*riven*" by a spear? Two of Kirke White's beautiful hymns are altered, in several places, and very much for the worse. The author wrote, almost in the words of Scripture:

"The Lord our God is clothed with might."

In the revised edition, it reads:

"The Lord our God is full of might."

Various alterations are also made in that pathetic hymn, beginning:

"Through sorrow's night and danger's path."

The last two lines of the first stanza, read thus:

"We soldiers of an injured king
Are marching to the tomb."

As amended, thus:

"We followers of our suffering Lord,"
Are marching to the tomb."

The fourth stanza in the original, reads thus:

"Yet not thus lifeless, thus inane
The vital spark shall lie."

It is altered as follows:

"Yet not thus buried or extinct
The vital spark shall lie."

The new words are less appropriate and far more difficult of utterance. In that oft repeated old hymn, "Come, Holy Spirit, come," one whole new stanza is inserted, thus, preventing the use of the old books by the congregation. This mutilation extends to nearly all the old hymns, that by long use, have become almost as sacred as the Bible itself.

E. D. S.

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AN OARSMAN'S MANUAL.*

There can be little doubt, it seems to us, that the American people as a whole should pay more attention to physical culture. The great, we might almost say abnormal, development of nervous force in this country without any corresponding development of the physical man is a subject of common remark among close observers of the condition of the people, and not unfrequently earnest warnings and fearful prophecies are uttered in reference to the present and future hygienic condition of Americans. And not improperly is this done. The frightful increase of nervous diseases, the frequent paralysis and sudden deaths of exclusive brain workers, and the weak, slender forms of many of the youth of the cities, youth whose strength is overtaxed by carrying a scuttle of coal from the cellar to their own rooms, all call for more attention to physical development. And nowhere in this slenderness of bodily form more noticeable than among the young men who are attending the large colleges. Who, that has seen a lot of students together, has failed to notice the almost utter physical insignificance of many of them? chests, narrow and thin and not larger than a large man's thigh and arms and legs with no lumps in them, and that seem as though they would snap like a reed at the first violent test. In view of this state of things, we can but rejoice in the attention which is being paid to athletic sports and exercises, and in the progress which they are making. And in so far as base ball, boating, gymnastic practice, football, etc., etc., add to the general physical culture of the communities where they are practiced we bid them God speed.

But we did not intend to write a homily on physical exercise, important as it is, but to introduce to our readers one of the best works that we have ever seen on one of the most popular forms of physical exercise. This work whose title in full is given in the foot-note, is gotten up by Messrs. Waters, Balch & Co., of Troy, the manufacturers of the successful paper boats, and taken as a whole is a most complete manual of everything that pertains to the sport, from the manufacture of an oar, to the latest statistics in reference to the last Summer's rowing. The book is a large quarto, of nearly five hundred pages, handsomely gotten up on tinted paper, with red line border, large clear type, and plentiful side notes for reference, and is a most exhaustive treatise, written by one who evidently has given the subject careful and thorough study.

The work is divided into six parts, and an introduction. The latter is historical and explanatory. A general survey of the condition of rowing in this country and England is presented, a short but interesting history of modern racing boats is given, and the different kinds of boats, the technical terms of their parts, etc., and their advantages, and defects, and treated at some length. Practical hints on the selection of boats best, fitted for racing, hunting, and exercise are also given. It is worthy of note that under the latter head it is affirmed that a boat about three feet wide and not less than thirteen or fourteen feet long is as small as one should begin rowing in, and a larger one is regarded as still better. The smaller or racing boats can be used after one has acquired the art. The history and manner of construction of the paper boats, as presented in the introduction, is interesting and valuable.

Part First which contains some seventy pages is devoted to the description and illustration of the boats and their fittings, which are manufacturad by the firm referred to. Every part of a boat is described, and illustrated by drawings of models and by perspective views. Drawings of different models of boats, are also given on extensive folding plates or maps. We notice a drawing of a Walter Brown models of the four-oared shell, rowed in by the Tyne crew, in September, 1870; and a number of new models of both racing shells, and hunting and working boats. Full directions are also given in reference to ordering boats, and a table of shipping and freight charges, to the principal cities of the United States is appended.

In Part Second, which to practical boating men is the most valuable part of the work, the subject of racing and training is considered with great fullness and care. Some practical suggestions in regard to the organization and administration of boats clubs, together with the constitution and by-laws of several of the most promient clubs in the country, are also presented. In the chapter on rowing, in would seem that a complete novice might find an answer to every phase of the question, "How shall I learn to row?" All the minutiæ of the practice are completely, and so far as we can judge, accurately discussed. As an example of the thoroughness of the treatment of this subject, which thoroughness we may say, seems to prevade the whole book, we copy a few of the side notes in this chapter: "Rowing defined; the stroke and the feather; but one model for correct rowing; (which is summarized as follows: A firm clean entrance of the oar into the water; a powerful steady and horizontal stroke, a feather quick, low, yet sufficiently high to clear the water in whatever state it may be, and concise both at the begining and at the finish); how to get into the boat; how to sit; holding the oar; rowing the stroke; (to which nearly two pages are given), the recovery; movements of the oar analysed; two kinds of faults common; catching a crab; slinking; getting into the scull; landing; how to steer; steering in a wind; keeping the course," etc., etc. This chapter likewise contains a definition and description of the *modus operandi* of paddling, easing, holding water, backing, etc. In the pages on "rowing the stroke" especial importance is laid on catching the water, a parallel movement of the oar, when once in the water; and a quick recovery. This latter, it will be observed, is a marked characteristic of successful crews. In the chapter on "Coaching a Crew," coaching is defined as "the art of selecting, out-fitting, and training crews for a contest," and the qualifications of a coach are said to be, thorough oarsmanship; a knowledge of the construction of boats; some ingenuity to repair them, or make shifts in critical situations; and a thorough knowledge of the laws of health and physiology, in order that he may properly guide the physical training of the men in his charge. "The coach should never be one of the crew." It will thus be seen that the position of coach is regarded as one of the highest authority and responsibility. Not only the selection of the crew, but their whole outfit and training are properly his care. Rules are also given to guide in the selection of the crew, the selection of the stroke oar, and the assignment of the crew to their positions in the boat.

Not less thorough in treatment and exhaustion of the subject than the chapter on "Rowing," are those on "The Theory and Principles of Training," and "Training in Practice." Perhaps we cannot better give an idea of what these chapters contain, than by briefly summarizing the daily routine of a crew, who are in what is termed "strict training." It should be premised that this training takes place during the last four or five weeks before the race, and that a more free preliminary training has taken place for an indefinite period previously.

"The crew should rise, in the spring or fall, between six and seven o'clock; in the summer, from half-past five to six, after having had full eight hours sleep, or, perhaps more in some cases. If taken in doors the bath may follow immediately, or, if in the open air, it is perhaps better to take a walk of a mile or two, and then bathe.

There should be *no running* before breakfast.

Breakfast should be taken from an hour to an hour and a half after leaving the bed, not longer, and should consist of broiled meat, (*nothing fried*), with bread or toast and butter, an egg or two, and lettuce or watercress if handy. The meat should be well cooked, not blue or half-raw, and the bread not less than twelve hours old. Tea may be drank, no coffee, and in season, ripe fruit eaten.

An hour after breakfast, the morning row or exercise should be taken. On returning from the row a good sponging and rubbing down should be indulged in, and this should be finished an hour before dinner.

Dinner, which is the most important meal of the day, should consist mainly of beef or mutton in any of their forms of roast or boiled, and for a change broiled fowls or fish, not *fried*, may be added. Plenty of stale bread and a moderate allowance of vegetables are indispensable. All deserts, such as pastry, preserves, etc., should be scrupulously avoided. Light pudding and fruit may be eaten sparingly and only water drank.

Two hours after dinner the afternoon row should take place over the same distance as in the morning, and the crew should receive the same care on their return.

Supper should consist of a little broiled meat, a bit of dry toast, and a cup of tea, and should be a light meal. The crew should retire from half past nine to half past ten."

Besides these general directions there are a multitude of minor ones, which want of space compels us to omit, but which provide for every emergency. Part Second closes with a chapter on swimming and restoring persons apparently drowned.

Part Third is devoted to racing in general and particular. The first chapter, after giving a description and exposition of various kinds of races, etc., concludes with the laws of racing as settled by the Oxford, Cambridge and London Clubs, the Thames National Regatta, the Hudson River Rowing Association, and the National College Regatta Association. Chapter second gives a list of races which have been won in paper boats, and concludes with a history of the boat racing of American Colleges. In this we discover some mistakes, but they are perhaps pardonable, being mostly wrong initials in proper names. The remainder of part third is a summary of the most important races that have been rowed in this country and Europe, within the past few years. These summaries are evidently prepared with great care, and are exceedingly valuable for reference. Among them are all the information that can be obtained in reference to all the races between Havard and Yale, and the same for the Oxford and Cambridge matches.

Part Fourth gives the officers, organizations, etc., of all the boating and hunting clubs of the United States and Canadas, together with a mass of minute information in reference to their outfits, number of boats, value of property, boat houses, etc. Some idea of the number of these organizations may be formed from the statement that in general the statistics of two are given on a page, and that over 135 pages are devoted to this purpose.

Part Fifth is devoted to the construction of boat houses. Views in perspective, and plans of the different parts are given, and accompanying each plan is a bill of the necessary materials and a detailed estimate of the cost.

In reference to the work as a whole it may be said that thoroughness marks every page, and that its treatment of disputed questions is characterized by extreme candor and fairness. Whoever takes any interest in rowing can ill afford to be without this book.

* *The Annual Illustrated Catalogue and Oarsman's Manual for* 1871. Troy, N. Y.: published by Waters, Balch & Co., Patent Paper Boat Builders. 1871.

MECHANICS' COURSE OF LECTURES.

THE PRISMATIC SPECTRUM.

The twelfth lecture in the Mechanics' Course of Scientific Lectures was delivered on the evening of March 14th, by Mr. C. S. Hastings, on "The Prismatic Spectrum." The lecturer began by elucidating the theory of undulations; describing that of sound as a rectilinear vibration of air-molecules, taking place in the direction in which the sound moves; and that of light as a similar vibration of ether-molecules, taking place at right angles to the direction in which the light moves. The two kinds of waves were illustrated upon the screen by ingeniously contrived movable slides.

The lecturer then passed to the length of waves, first

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of sound, then of light, sounding a tuning fork giving actual waves of the precise length just thrown upon the screen. He showed that the pitch of a note depended upon its wave-length, and made the inquiry whether there might not be in light analogous effects due to different wave-lengths. To answer this question the course of a light-ray through various media was discussed. As in the case of sound, light waves of whatever length, moving in the same medium with the same uniform velocity, move always in a straight line. But when they enter a denser medium they are retarded in velocity. If the entrance be perpendicular, no other effect is produced; but if it be oblique then the ray is laterally displaced or refracted. An arrow drawn on a lightly smoked glass was thrown upon the screen, and a thick rectangular piece of glass was held across its center. No displacement of the arrow resulted, unless the glass was held obliquely to the course of the ray, when the arrow appeared broken, a central portion being laterally displaced. The cause of this refraction was explained by means of a diagram thrown on the screen, showing that a retardation took place, of that portion of the which first struck the surface of the medium, oblique beam so that when the portion last impinging arrived at this surface a change of front had been effected in the wave. This is illustrated by the common effect noticed when a platoon of soldiers on a quick march strikes a piece of rough ground obliquely. The effect of the shape of the medium was illustrated by a diagram showing a section of a triangular prism. In this case the ray after passing the medium, does not proceed in the same direction as before it entered it—as it does when the sides of the medium are parallel—but emerges in a direction still further removed from its original course. But this is not the only effect produced by the prism. The retardation being dependent upon the wave-length, waves of different lengths will be differently retarded, and therefore differently bent or refracted. If white light contains waves of different lengths, then by passing this light through a prism the waves should be separated from each other, the longest waves being least bent and the shortest most bent. A beam of light from the lantern was then allowed to pass through a prism and an exquisite colored image or prismatic spectrum appeared upon the screen, varying in color through red, orange, yellow, green, blue and indigo to violet. Color, then corresponds to pitch in sound, the different colors, like the different tones varying with the length of the wave. A movable diagram illustrated the difference of wave-length between the extremities of the spectrum, from which it appeared that the violet wave was about half the length of the red wave. Brewster reduced Newton's seven primary colors to three; but every color of the spectrum, since it is incapable of decomposition by the prism must be regarded as simple.

The character of the spectrum itself was then considered. It was shown by a remarkably delicate experiment—using a thermo-multiplier and a sensitive galvanometer—that the brighest part of the spectrum, viz., the yellow, had no heating power; but as the red end of the spectrum moved over the face of the pile the needle swung sensibly and reached its greatest deflection when the pile was exposed to the extreme ultra-red rays. In this part of the spectrum then, where the waves are the longest there is most heat; which indicates a greater amplitude in the long waves, since heat is most readily produced by the conversion of ordinary mechanical motion. The other or violet end of the spectrum was next considered. To show the peculiarity of these waves, which are so exceedingly short, two sensitized photographic plates, each under a separate negative, were exposed for fifteen seconds, one to the yellow the other to the blue rays. On developing and fixing the prints no image at all appeared on that which had been placed on the yellow; while on that exposed in the blue a diagram of the solar spectrum appeared with the curves of heat, light and chemical power. From this diagram, thrown on the screen by the lantern, the various properties of the spectrum were recapitulated. It was also shown that the ultra-blue rays which are entirely invisible, might be rendered visible by certain media. This constitutes the phenomenon of fluorescence.

The lecture was one of the most interesting of this excellent course. Though it was the lecturer's first effort in public, his delivery was easy and fluent, his manipulation precise and his experiments—most of which were original and ingenious, the diagrams for the lantern being especially so—eminently successful. His treatment of the subject was clear and he held the attention of the audience completely to the end.

GUNPOWDER.

An extra lecture in the above course was given Friday evening, March 22, by Capt. C. E. Dutton (Yale, '60) of the Ordnance Department of the United States Army upon "Gunpowder." The lecturer opened by stating the necessary requisitions of a material to be used with projectiles, and then showed how gunpowder fulfilled the conditions required. The different ingredients of gunpowder were then described and its mode of action was clearly explained. The part which each ingredient performs, and the reactions which take place when it is burned, were given with minuteness, and a brief account of the materials used in its construction was presented. The remainder of the hour was devoted to an explanation of what takes place when a cannon is fired. The present problem in gunnery is to obtain a powder that will give the greatest velocity to the projectile and at the same time not cause too great a strain upon the gun. The steps that have been taken toward solving this problem, and the attempts which have been made to remove the maximum strain from the breach towards the muzzle, by increasing the coarseness of the powder, and also giving it peculiar forms, were very forcibly and clearly stated. Also, the methods by which the strain, caused when a gun is fired, is measured and how a knowledge of the strain in different parts of the gun is obtained, were explained and illustrated by diagrams. Different kinds of powder were shown and their peculiarities described.

The lecture combined the highest results of a scientific treatment of the subject, with an animated, clear and forcible delivery. It has rarely been our fortune to listen to a more entertaining or instructive lecture or to one in which truth was presented in a more agreeable form.

AN EXPERIENCE, AND ITS LESSON.

[The following in reference to the closing of Franklin College, from the pen of its late president, will prove of interest to our readers. The article was written for the *Examiner and Chronicle*.—EDS.]

The recent failure of the Franklin College is in itself a small affair. It is but the closing of an Institution with fifty students, four instructors, no library, no cabinet, small apparatus, $30,000 of endowment in notes bearing six per cent., and $12,500 of debts bearing from 7 to 10 per cent. And yet, like the falling apple of Newton, it suggests lessons of great significance. Indeed, I cannot but think that it may be regarded as marking an era in our educational history, Hitherto, what has been the origin of our colleges, for the most part? A few men of intelligence, enterprise and piety, have realized the need of an institution of learning, and have enkindled others to the point of making some scanty contributions which, combined with the not unselfish offerings of local feeling, have secured a building. Then has followed a long procession of struggles, of debts, of appeals, of crises, of unfulfilled promises, of starving teachers, of disappointed creditors, of broken-hearted laborers. Sometimes, out of these trials has come an endowment, as at Waterville, Granville, and Hamilton. Sometimes the institution has wisely accepted the situation and become an academy, as at Beaver Dam, Wis. (only I would drop the name of University, it seems to me.) In some cases the problem is not yet solved, as with our brethern in Iowa.

The past is past. Whether all this was needful in the former days, I will not ask. But may we not accept the Franklin experience as testifying to the fact that we have entered a new era? When I became connected with Franklin College, in August, 1870, the endowment was about $25,000. I was informed that additional endowment, to the amount of $30,000, would be raised during the following year. It was estimated that the income of the College would be $7,900; the expenses $8,400; and that individuals were ready to make up the slight deficiency. "I remember," says Mr. Pecksniff, "thinking once, in the days of my childhood, that pickled onions grew on trees, and that every elephant was born with an impregnable castle on his back. *I have not found the fact to be so; far from it.*" And so of myself. I blame no one. It was a mistake, an honest mistake. Half the year passed; next to nothing had been added to the endowment. I was confirmed in the belief (which I had cherished from the beginning), that there needed a larger movement to arouse the State. It was voted, on my urgent recommendation, to attempt to make the endowment $100,000 by Jan. 1, 1872.

The effort failed. Practically nothing was raised, for the debt grew faster than the endowment. The income proved to be (say) $5,500. Remember, there was not a dollar for library, cabinet, or apparatus. Money was borrowed for current expenses, as long as any one would endorse. Then the College stopped, with the premises more than ever covered by a first and second mortgage, leaving the faculty, the janitors, the bell-ringer and all employees unpaid, with no security and no prospects.

I repeat it, I blame no one. We erred in ignorance, and I trust that "the time of this ignorance God winked at." But we cannot expect him to wink any longer. If we err again, we shall "sin wilfully, after we have received a knowledge of the truth." In the light of the past, we cannot shut our eyes to the fact that to commence a college, without the means for its support, to assume expenses twice as large as any reliable income, is to ensure crushing anxiety, is to render it impossible to fulfil our promises to pupils or teachers, is to court bankruptcy, denominational disgrace, and (probably) bitterness and alienation. I cannot speak for other States, but I must express the belief that if the Baptists of Indiana should in future open a college without having $200,000 of endowment, in addition to buildings and land, they would commit a blunder partaking of the nature of a crime.

"But how shall we ever have a college, if we are to wait until we have $200,000 or $300,000?" By laboring and praying for it. It is easier, I believe, to raise money for such an Institution before it is begun than after. When it has started, every one says: "Oh, it will go on somehow." And the town expects the State to do, and the State expects the town to do; and the end justifies the adage of the two stools. If, in any State, there are those who realize the need of a college, let them consult, pray, watch, wait. Let them enlighten the public by meetings, by the press; let them employ some one whose duty it shall be to increase and organize the sentiment. Let contributions be received, and let them accumulate, until the desired point is reached. The further the work goes on, the more headway it will gain, and the more sure will be the ultimate success, provided only there be union, heartiness and patience, a disposition to *take* hold, and to *keep* hold, until the result is gained.

"But what then? do you have no room for the exercise of *faith*?" Oh, yes! It must be a work of faith throughout. Faith is a belief of the revealed word of God. And one of his precepts is, "Owe no man anything." To trust God when we are not obeying him, to pray to God when we are not fulfilling the conditions of acceptable prayer, is idle. I see this *now*. I did not see it before. Was it not this which vitated our prayers? We fell, I imagine, into the very temptation with which Satan tried our Lord Jesus—"Cast thyself down from thence," &c.; that is, put yourself into a

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position of danger, expecting that God will extricate you. We may be sure that if God wants a college, he will provide the means for it, if we proceed in accordance with the principles he has laid down. But he has never promised to pay our debts, or to help us out if we, with our eyes open, make promises that we cannot keep.

The matter of location is one demanding serious and careful attention. We should have the *best* location; and this for two reasons—both because a good college can be built up more economically and more speedily at a good location than elsewhere, and also because the college, when built, will be vastly more useful to the State and country and denomination. To determine a location *merely* on pecuniary grounds, is scarcely wise. The amount of money that may be offered by a particular town is one, but it is *only one* of the elements of a choice.

It is not needful that the location be geographically central, but it should be reasonably accessible by rail. Persons who have become fairly enlisted, whether as students, or as trustees and benefactors, will perhaps be willing to go out of their way half a day's journey, on purpose to reach the college. But we want to bring in those who are not now enlisted, and so we must put the college readily within their reach.

Again, the location must be such that the outside influences may help in the education of the students. It is not in the recitation-room alone that they receive their culture, but in the church, the lecture hall, the social party, the evening visit. And the town should be of such a type of civilization, as will afford these means of culture in their highest form.

While it is very desirable that the college should be in a town that may be relied on from time to time for donations, (not merely to *secure the location* of the college, but to raise its character and to enlarge its resources,) it is absolutely indispensable to success that it should be near a strong Baptist church (or churches) which may afford it an efficient support, by its contributions, its counsels, and its prayers. When it is argued in favor of a location that the college is needed in order to help the church, we may safely conclude that the argument is final against the location.

And the location must be one that has a prophecy of success, that has not upon it the *odor of failure*. We cannot afford to be ignorant of the fact that to establish a college is a large undertaking. There is need of money, wisdom, prayer, union of effort, concentration of resources, and time.

Do not infer from anything which I have said, that I have ceased to believe in our State denominational colleges. Nothing that has occurred has shaken my opinion that Indiana Baptists need a college; need it to promote the happiness and usefulness of their young men and young women, to call out the enterprise and liberality of the churches, to promote union of effort among themselves, and to awaken and increase faith in God. One college in each State, a seminary in Chicago, supplied by all of these colleges—this seems to me, in general, the true policy of the Baptists of the Northwest.

How far the Western colleges, as a general thing, are entitled to ask aid from the East, I can hardly judge. But of one thing I am sure. The aid ought to be given with *judgment*, and in such a manner as to be most effective, and to draw out a much larger amount from the locality and the State. And would it not be well if it were understood that no application for help should be entertained, until the case had been examined and approved by the Educational Commission, or by some other central body? If we should have among us anything corresponding to the College Society of our Congregational brethren, the pecuniary aid afforded would be, I trust, the least of the blessings conferred. The counsel imparted, the harmony of action ensured, would be far more valuable.

But whatever may be the case with our colleges generally, there is one Institution whose case is peculiar, imminent, and indisputable. I refer to the University of Chicago. Even before the fire, our brethren in Chicago, liberal and enterprising to a fault, were burdened up to the measure of their ability with the various schemes of church extension. *Now* they are peculiarly entitled to ask the aid of the Baptists of America. The remarks recently made by the *Examiner* and *Chronicle* on this topic seemed to me just. It is for the denomination at large, East and West, to save the University, by finding out exactly where the bottom is, and then by paying the debt, creating an endowment, and completing, in the metropolis of the Northwest, a monument to our principles and to our Master, a fountain of baptized culture, of sanctified power. This action we may with the more propriety take, as we have not been called on, (as have other denominations,) to rebuild devasted and destroyed churches. We have the opportunity to concentrate upon the University and the Seminary all of our benefactions in aid of the noble City of the Lakes.

H. L. WAYLAND.

Franklin, Mar. 4, 1872.

"NATIVE-BORN."

Dr. Francis Lieber, writing to the Census Bureau, says some things worth remembering about a very common error:

"Let me hope that this barbarism will not pass over into the census. One of my earliest and best remembered teachers used to call the tautologies into which we boys occasionally stumbled *bacon fried in lard;* but, frankly, I remember none so repulsive as the *native-born citizen.* It is now, I am sorry to say, universally used by the law, or rather by the lawyers; but the expression is new and must be eradicated. Native citizen or population is all that need be said. Voluminous, heavy language, obscuring by its own verbosity, is anything but a sign of culture, and ought to be eschewed in law even more than in any other branch. *Fracture-broken legs*, or *tribulation-grieved souls* is every bit as elegant as *native-born citizens.* Simplicity is clearness and a sign of culture, and in a language in which so many parallel words exist derived from Latin and Saxon as in English, such graceless reduplications might be extended without end. Savigny has somewhere a very impressive passage on the beautiful, because terse and clear, Latin of the foremost jurists of the civil law. Let us strive to imitate them, and discard the idea that repetition of this sort lends emphasis, as those must have thought who called George I. in the proclamation of 1714, sent abroad by Bolingbroke, 'The royal King George.' We find in the Roman jurists no accumulation of words, like stifling pillows, once so common in the English law, and far too frequent yet.

"The Constitution has the term natural-born citizens, not much better than *native-born*, if it be better at all. For, what is natural-born? We think instantly of natural, unimpeded parturition, or of the fact that in many languages illegitimate children are called natural children, in which case *nature* and *natural* are contradistinguished to *law* and *lawful;* or we think involuntarily of the transposition, *a born natural.* "*Natural born*, meaning what the Germans call *Eingeboren* (in-born, indigenous), is an old English law expression, but uncouth enough for all that. The famous Act, 13 George II., c. vii., cited as an important authority in the report of the Committee on the subject of Colonial Rights in the Congress held at New York in October, 1765, makes use of the expression natural-born, and the report itself uses the simple word *natives.* I know that some persons will object that *native* would remind us of Indians; but this is not valid. Why does it not do so in French or Spanish? If it did not remind our forefathers of the Indians in the early year 1765, why should it suggest the fading race to us in 1872?

"The Act of 1740, just mentioned, invites foreigners to settle in the king's American Colonies, by declaring, after a most anti-Know-Nothing preamble, in sufficiently odd language, that foreigners, having resided seven years in the Colonies, on taking the oaths of allegiance, etc., etc., are to be his majesty's natural-born subjects of the kingdom of Great Britain, etc., etc. The preamble pronounces immigration a most desirable thing, and the report of 1765, of which I speak, contains this sentence: 'The colonists are by this act considered as natural-born subjects, and entitled to all the essential rights of such, unless it could be supposed that foreigners, naturalized by this act, are entitled to more than the natives.' Let us retain the last word and be done with the subject. In no other language that I know of, ancient or modern, has such a term as native-born or natural-born crept in.

"'The words just quoted in the great immigration act, that certain foreigners are 'to be his natural-born subjects of the kingdom of Great Britain, to all intent, construction, and purpose,' are allowed to be grotesque, and yet the word naturalization expresses the same, but does it less glaringly. Naturalizing means imparting the *nature, natura, character by birth*, to a man. I do not know when the word naturalization first came into use in law, but who will forget Bacon's early words: '*All states that are liberal of naturalization toward foreigners are fit for empire*' (Bacon's 'Essays.' Essay 29: On the Greatness of Kingdoms and of Estates)? Certainly no one who calls himself *civis Americanus*, as Paul collectedly said, *Civis Romanus sum.*" — *Nation, Mar.* 21.

[In a note Dr. Lieber adds, "Recently I found *equal compeers* in an English publication of note."—EDS.]

Kansas Academy of Science.—From the *Kansas Educational Journal* we learn that this institution founded in 1867, is meeting with encouragement and success. "Fourteen papers have been read, mainly based on original investigations. To indicate the value of some of these papers it may be said that the paper on the plants of Kansas aims to give a complete catalogue of the plants of our State. About six hundred species have already been determined—the result of several years of study. One of our botanists spent a portion of his last summer vacation with Prof. Asa Gray, studying in the botanical gardens of Harvard College, with a special view to this work. The paper on the comparison of the coals of Kansas, with other western coals, aims to give a complete qualitative and quantitative analysis of the coals of Kansas. The paper on the fishes of the Kansas river as observed at Lawrence, describes twenty-seven species. The paper on the birds of Kansas describes one hundred and sixty-four species and is accompanied with accurate measurements of the same. Something is being done in Meteorology in ascertaining, at various points of the State, the annual rainfall, the mean annual temperature, the direction and force of the prevailing winds, the mean cloudiness of the sky, the times of early and late frosts, the humidity of the atmosphere, etc. One of our geologists has done a noble and hazardous work in exploring Western Kansas, which had remained until the time of his explorations almost a *terra incognita* to science. One of our mathematicians is planning to determine from celestial observations the latitude and longitude of various points in Kansas. Some collections have already been made for the Society, but remain in the hands of collectors for want of a room and cases to arrange them properly in the capitol building. One of our naturalists has placed his private cabinet on deposit with the academy to form the nucleus of a larger collection. In fine, each member is working silently in his own appropriate field, and from time to time brings forth the results of his labors."

— Buchtel College at Akron, O., has recently received $8,500 from an individual whose name has not been made public. Rev. S. P. Carlton has been engaged as Financial Agent, and he is to canvass Ohio at once.

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SCIENTIFIC.

— The proposed tunnel under Mt. St. Gothard will be about twice as long as the Mt. Cenis tunnel, and it will pass under peaks varying in height from 8,750 feet to 10,- The principal advantage anticipated from the work is an increase in the facilities for trade and travel between Europe and Asia, by way of Italy.

— Professor Nordenskiold states that the masses of meteoric iron brought from Greenland by the recent Swedish expedition seem to have formed the principal masses of an enormous meteoric fall of miocene date, extending over an area of some two hundred square miles. The iron appears to be free from silicates. Professor Ramsey thinks the masses may be of telluric origin.

Large Sun Spot.—Professor S. P. Langley of the Allegheny Observatory, has computed the area of one of the spots lately visible near the center of the sun's disc, from careful measurement, and found it exceeded 2,300,000 square miles, which is more than ten times the entire area of the earth.

Evaporation of Water.—In 1858 the Mississippi River below the junction of the Ohio, sent down 52,039 cubic yards of water, but only 45,915 reached Baton Rouge, although the Arkansas, Yazoo, and several smaller streams had joined it on the way. A mass of water nineteen times the bulk of the Seine was lost on the passage by evaporation mainly.

Water in Quantity.—Buffon supposed the mass of water emptied by the rivers into the sea, would represent in 812 years a quantity equal to that of the ocean. Among the most important scientific calculations recently made, is that relating to the quantity of rain falling annually on the earth and brought down by rivers, which says Metcalf, is 76,000,000,000 cubic yards daily. Mr. Johnson, a learned mathematician, estimates it at 2,620,- 000 cubic yards every second.—*Mail.*

Exciting Liquid for the Galvanic Battery.—M. Delaurier says, in a recent communication to *Les Mondes*:

Having learned that the quantities of sulphuric acid and potassic dichromate, as used, are irrational both in theory and practice, I have made an exciting liquid with convenient quanti ties. I found it necessary to take 18 parts potassic dichromate, dissolve in 200 parts of water, hot or cold, and then add gradually 42 parts monohydrated sulphuric acid, in all 200 parts. In this manner there is secured a liquid which attacks nearly every metal, particularly iron and zinc, without liberating gas; these metals may serve for the negative pole, and gilded copper or carbon for the positive. This liquid produces a very energetic action, is cheap, and forms a chromic salt of great value.

Indulin Blue, it is reported, has by improved methods of preparation become tolerably cheap, and may be recommended as a genuine color. It is first to be dissolved by rubbing it up in some ater, and then boiling in from fifty to one hundred parts of water. For use the bath is to be rendered alkaline with borax or soda; the coloring matter and the wool must be heated to 212 degrees Fahrenheit, and the boiling must be continued until a sample, taken out and boiled in water acidulated in sulphuric acid, exhibits the desired shade. The entire mass of wool is then to be taken from the alkaline bath and drained off, washed and treated in a boiling water-bath with sulphuric acid and chloride of tin, in which the blue color, as shown in the sample, will become quickly developed. After some further boiling the operation will be completed.

Dangerous Gas Pipes.—The *Journal de l'Eclairage* notices an accident which gives new proof of the danger attending the use of copper gas pipes. In April last, a workman having with a triangular file cut almost half through a gas-pipe of red copper ⅜ inch interior diameter, which supplied the Liege station, was removing the tool, when an explosion took place, with a noise like the report of a rifle, and the workman was much burnt. A similar accident happened subsequently, but with less intensity, and the workman, who was not injured, did not report the circumstance. Some gas-pipes haviug been taken down, they were found covered with a blackish coating, and they showed evident signs of corrosion from ammoniacal condensation. The black matter was analyzed, and was found to consist of acetylide of copper, which explodes between 203° and 248°, producing water, copper, carbon, carbonic acid, and traces of carbonic oxide.

Copal.—Contrary to what is generally supposed, there is but very little copal found upon the Island of Zanzibar itself, and the little which is found is very inferior in quality and does not enter into trade. Moreover, there are copal-producing trees still growing on the island, and in various parts of West Africa, particularly in the interior, whence the raw copal is brought by the natives, but the fresh and unfossilized gum obtained from these is nearly valueless, and when mixed with the fossil gums, as is often done by the natives for the purpose of adulteration, it is always rejected by experienced buyers.

The great bulk of the fossil copal, which alone is merchantable, comes from the adjacent shores of Africa where it is found principally in a long strip of coast land, having an extent of two or three hundred miles in length, and extending inland to a distance of about twenty-five miles. This section of the East African coast land is called the Mrima, and it is in the sand of this low and desolate tract, in which there are no inhabitants, and but little vegetation that the Zanzibar copal is found.—*The Hub.*

A New Species of Hadrosaurus.—Among the Reptilian remains obtained by the Yale College party during the past summer was the greater part of a skeleton of a small *Hadrosaurus*, discovered by Professor O. C. Marsh in the blue Cretaceous shale near the Smoky Hill River, in Western Kansas. This species was somewhat smaller than *H. minor* Marsh, from New Jersey, and hardly more than one-third the bulk of *H. Foulkii* of Leidy. It was of more slender proportions, with the tail much elongated. The cervical vertebræ are proportionally shorter than in *H. Foulkii*, and the caudals appear more compressed. Some of the distal caudals have a longitudinal ridge on the lateral surface. The sacrum, which is composed of six confluent vertebræ, is 414mm. in length. The first caudal vertebra is 62mm. in length. The feet are nearly entire, and are proportionally more slender than the known remains of the other species would indicate. The third metatarsal s 235mm. in length, and 77mm. in transverse diameter at its distal end. The species, which may be called *Hadrosaurus agilis*, will be more fully described at an early day.

Traveling Stones.—Many of our readers have doubtless heard of the famous traveling stone of Australia. Similar curiosities have recently been found in Nevada, which are described as always perfectly round, the majority of them as large as a walnut, and of an irony nature. When distributed about on the floor, table, or other level surface, within two or three feet of each other, they immediately begin traveling toward the common center, and there huddle up in a bunch like a lot of eggs in a nest. A single stone, removed to the distance of three and a half feet, upon being released, at once started off, with wonderful and somewhat comical celerity, to join its fellows; taken away four or five feet, it remained motionless. They are found in a region that is comparatively level and is nothing but bare rock. Scattered over the barren region are little basins, from a foot to a rod in diameter, and it is in the bottom of these that the rolling stones are found. They are from the size of a pea to five or six inches in diameter. The cause of these stones rolling together is doubtless to be found in the material of which they are composed, which appears to be loadstone or magnetic iron ore. "Rolling stones gather no moss."—*Coal and Iron Record.*

Bending Discs of Silvered Glass.—Mr. Nasmyth's plan for making concave glass reflectors for telescopic purposes, is as follows:—"A disc of silvered plate glass, 39 inches in diameter and 3-16 of an inch in thickness, is fitted and cemented into a shallow cast-iron dish, turned true on its face so as to render the chamber behind the glass perfectly air tight; by means of a tube communicating with this chamber, any portion of air can be withdrawn or injected. To produce a concave mirror so slight a power is required, that on applying the mouth to the tube and exhausting the chamber, the weight of the atmosphere, which amounts in this case to 3558 lbs., acting with equal pressure over a surface of 1186 square inches, causes the glass to assume a concavity of nearly three quarters of an inch which in a diameter of 39 inches, is far beyond what would ever be required for telescopic purposes. On readmitting the air, the glass immediately recovers its plane surface, and on forcing in air with the power of the lungs, it assumes a degree of convexity nearly equal to its former concavity. The degree of concavity or convexity may be regulated to the greatest nicety, and it is proposed to render the degree of concavity constant by placing in the air-tight chamber a disc of iron turned to the required form, and allowing the pressure of the atmosphere to retain the glass in the form given to it by its close contact with the iron disc."

Form of Molecules—The Ring-vortex Theory.—Professor J. Clerk Maxwell thus speaks of this theory in his address before the Physical Section of the British Association:—"A theory which Sir W. Thomson has founded on Helmholtz's splendid hydrodynamical theorems, seeks for the properties of molecules in the ring-vortices of a uniform, frictionless, incompressible fluid. Such whirling rings may be seen when an experienced smoker sends out a dexterous puff of smoke into the still air, but a more evanescent phenomenon it is difficult to conceive. This evanescence is owing to the viscosity of the air; but Helmholtz has shown that in a perfect fluid such a whirling ring, if once generated, would go on whirling for ever, would always consist of the very same portion of the fluid which was first set whirling, and could never be cut in two by any natural cause. The generation of a ring-vortex is of course equally beyond the power of natural causes, but once generated, it has the properties of individuality, permanence in quantity, and indestructibility. It is also the recipient of impulse and of energy, which is all we can affirm of matter: and these ring-vortices are capable of such varied connections, and knotted self-involutions, that the properties of differently knotted vortices must be as different as those of different kinds of molecules can be. If a theory of this kind should be found, after conquering the enormous mathematical difficulties of the subject, to represent in any degree the actual properties of molecules, it will stand in a very different scientific position from those theories of molecular action which are formed by investing the molecule with an arbitrary system of central forces invented expressly to account for the observed phenomena. In the vortex theory we have nothing arbitrary, no central forces or occult properties of any other kind. We have nothing but matter and motion, and when the vortex is once started its properties are all determined from the original impetus, and no further assumptions are possible. Even in the present undeveloped state of the theory, the contemplation of the individuality and indestructibility of a ring-vortex in a perfect fluid cannot fail to disturb the commonly received opinion that a molecule in order to be permanent, must be a very hard body. In fact one of the first conditions which a molecule must fulfil is, apparently, inconsistent with its being a single hard body. We know from those spectroscopic researches which have thrown so much light on different branches of science, that a molecule can be set into a state of internal vibration, in which it gives off to the surrounding medium light of definite refrangibility—light, that is, of definite wave-length and definite period of vibration."

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, MARCH 30, 1872.

THE projected appropriation of $100,000 by the Massachusetts Legislature for Amherst College is still, recieving attention. On Tuesday March 19, Mr W. H. Ladd of the Chauncey Hall School appeared before the Committe on education and urged that if the grant was made it should be coupled with a proviso that the college should admit females on equal terms with males. Mr. Ladd made a very urgent plea for the coëducation of the sexes, referring to the experience of the normal schools as demonstrating the beneficent results of such a system.

THE Hassler Expedition, after having been detained three weeks at Rio Janerio, were to sail on Wednesday February 14th, for Montevideo. The time of the detention has been employed in securing specimens, some sixteen large cases of which have been packed up to send home. Some of these specimens are believed to fulfil the predictions which Prof. Agassiz made before starting on the expedition. A few valuable fresh fish specimens were lost through the heedlessness or misunderstanding of a colored servant. They had been carefully dissected and put in alcohol, and then entrusted to this servant. When they were enquired for the next day, the darkey with a grin pointed to the frying pan, where they were being nicely cooked for the professor's breakfast, the servant supposing that he was doing the proper thing with them.

THE *Tribune's* special in Washington affirms that it is now considered certain that the Library Committee of Congress will report in favor of Senator Sherman's plan of an international copyright law. It will be remembered that the principal features of this plan are to allow any publisher to reprint a work by a foreign author, provided he pays that author a certain per cent. on the sales of the book, and that the same privilege must be allowed to American authors by foreign countries. It is urged in favor of this law that it would secure to foreign authors the benefit of the publication and sale of their works in this country, and would prevent any one publisher obtaining a monopoly, by contract with an author, of the right to issue his works. There would, therefore, be no important increase in the price of foreign books; competition would determine the price, as it does that of American works. All the members of the committee, except one, are understood to be in favor of the plan.

THE committee appointed by the Pennsylvania Senate to investigate the alleged irregularities in conferring medical diplomas of certain Philadelphia medical colleges, have made their report to that body. These institutions have been found guilty of the charges made against them, and that too, after a thorough and fair investigation. On receiving the report the Senate unanimously voted to repeal the charters of the Eclectic College of Medicine, and the Philadelphia University of Medicine and Surgery. The conclusions of the committee in brief are as follows:

"That the two institutions named, under the management of Dr. William Paine and Dr. John Buchanan, have openly engaged in the sale of diplomas to persons who had not attended even a practical collegiate course, and who had neither medical nor scientific attainments; that Dr. Paine employed agents to sell diplomas, and that honorary degrees were sold by him; that Buchanan carried on the sale of degrees by the Eclectic College of Medicine systematically, giving them to persons who had neither attended lectures nor received any medical instruction whatever, and who did even know where the College was; that it was the design of those engaged in the nefarious business to create the impression that they really represented the University of Pennsylvania, at Philadelphia, and hence their endeavors, by frequent legislation, to obtain such names as would be likely to be mistaken for it; and that both the Eclectic College of Medicine and the Philadelphia University of Medicine and Surgery sold many scholarships to persons who supposed they were purchasing the scholarships of the University of Pennsylvania, and that in no known instance was the error corrected when the student discovered the mistake."

NO MORE COLLEGES.

However much it may seem to the friends of the numerous smaller colleges of the country, that the larger and more powerful institutions would rejoice in their downfall, and that everything which is said by those who have been connected with some of the larger colleges in reference to the smaller ones, is prompted by this feeling, we cannot avoid the conclusion that there are too many colleges in this country, and that there have been great mistakes in the founding of at least some of them. Lest there should be chance, however, for attributing some of the feeling referred to, to us, we take this occasion to say that we heartily and earnestly sympathize with every educational institution in the country that is doing its work well. We wish that every so-called college in the country had ample buildings, apparatus, library, and plenty of students, and rejoice in every effort that is being made to sccure these necessaries. Still further, we hope to labor with the friends of the various institutions for their material prosperity and for their progress toward better methods and the accomplishment of better work in the education of American youth. But the oft repeated cries for assistance, the occasional closing of a college, and the frequent exposures of the poorness of the advantages offered in certain institutions by those who write, not in enmity but in sadness, all tend to convince us that there is fault somewhere. Either too many colleges have been founded for the needs of the people, or they have been founded too soon, or the difficulties of starting and conducting such institutions have not been sufficiently weighed.

It may be that all these reasons have had an influence in bringing about the present condition of things. There can be little doubt, it seems to us, that many of the institutions called colleges in the country are doing little better than preparatory school work, and at the same time are cramped for want of means to make both ends meet. The instructors are poorly paid, the libraries do not grow, the buildings can hardly be kept in repair, and the offering of better advantages to attract more students is out of the question. It may be said that this state of things is inevitable when institutions are young, and that as the country grows older they will survive and flourish. All the colleges of the country it may truthfully be urged were weak once; all have had to go through about the same struggle for life. We are all well aware that this is to a certain extent true, but their must be a limit somewhere. The number of colleges in the country will sooner or later be equal to its needs and then the argument can no longer hold. It is of course impossible to say when the number of colleges exactly corresponds to the requirements for higher education, or how far the colleges ought to lead and by their existence create a demand for the advantages which they offer. But if the way in which colleges are sustained by endowments and financial support is any measure of the demand for them, the limit in this country has already been past, else we should not have so many starving institutions. And if the number of students which they attract is any measure of the power of colleges to create a demand for higher education, that power in this country has been over-estimated, else the classes in these institutions would exceed a dozen members apiece.

The truth seems to be that colleges, so called, have been founded from divers reasons, but without any adequate idea of the importance of the undertaking and of the difficulties which surround it. To found a successful college or university is no child's play. Even after the grounds, buildings, library, apparatus, etc., have all been obtained and paid for, the college cannot be trusted to sustain itself. There are very few, if any, institutions in the country where the income from the students would pay the running expenses. The professors' salaries must be met partially, at least, from the endowment of the chairs which they occupy. And even in the richest institutions in the country, whose endowments are heaviest and number of students greatest, the pay of the professors is far from liberal. To start a new college is a work which should be approached with the utmost care and circumspection, the most careful measurement of resources, and a deep conviction that the institution is needed. That this has not been sufficiently done in the past is painfully evident. The recent closing of Franklin College in Indiana, the strenuous efforts that are being made to secure endowments for a number of the western institutions and the statements of the critical condition of others which continually meet the eye, all show that the circumstances were not sufficiently considered, and sufficient preparation was not made before the institutions were started.

If this position be admitted, and the inquiry be raised, what should be done in the premises, we would say, first let no more new colleges or universities be founded, at least in any portion of the country where starving institutions still exist. There may be cases in the newer States, where new Colleges may properly be started, but not even then, unless there is an evident need in the circumstances of the people, for such an institution. And we urge that even in these cases as in all others, the first step toward setting in motion the college or university, whichever it may be called, be delayed, until ample funds for buildings, library, endowments, etc., be already in hand. The experience of Franklin College shows the folly of trusting promises. We can but reccomend in one particular, at least, the plan of the projectors of the new Central University, that is to be somewhere in the south-west, who have decided not to commence work until they have raised a million of dollars. If they think an institution, such as they project, is needed by the Methodists of the South-west, this is by all means their wisest course, yet we cannot but hope that the million will be raised, and then the new university located in connection with some of the weak Methodist Colleges in that region, or better still, unite two or three of them in one, and add the million to the combination. Strengthening a few good institutions, enlarging their borders and making them successful seems to us to be the true sphere for the action of those who are anxious to do something for the educational interests of the country. And in any event, in view of the number of chartered Colleges in the country, and the pecuniary conditions in which all, even the best, are situated, it is little short of suicidal, and foolish in the extreme to found any more institutions nominally devoted to the higher education.

In the second place it seems to us that something should be done with the Colleges and Universities which now exist. The report of the Commissioner of Education affirms that there are three hundred and seventy-two institutions in the country, qualified by law to confer the degree of Bachelor of Arts. Of this number perhaps a dozen or twenty may be called first-class colleges, and a hundred more ranked second-class. The remainder, are weak in funds, weak in instructors and weak in students. Any one who looks over the

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list will find plenty of colleges and universities, so called, who have three or four instructors and from two to ten in a class. They are doing little work, and from lack of appliances, necessarily poor work. The institutions of course, have their friends, who are trying to sustain and build them up, but we submit, whether it would not be better for quite a share of the weak ones to drop both name and semblance of college or university, and devote themselves to the work of fitting students for the larger institutions. There is a great lack of good fitting schools in the country, and many of the colleges, which are so poor as colleges would if they devoted their whole force to it, make at least medium fitting schools. It would be something of a fall of dignity and pride perhaps, but it would be an immense advantage to the youth of the country. We commend the thought to the serious consideration of those who are struggling to sustain some of the feebler colleges of the country.

LITETARY.

D. Appleton & Co., will issue on the third of April, "Good-bye Sweetheart," by Rhoda Broughton, author of "Red as a Rose is She." . . . . Messrs. George Routledge & Son's announce that they will issue shortly, "Men of the Time," new edition, brought down to the present; "The Poultry Book," by W. B. Tegetmeier; "Discoveries and Inventions of the Ninteenth century," by John H. Pepper; "Gems of Prose," selected and edited by Charles MacKay; "Homer's Iliad and Odyssey," Pope's Translation; "The Queen's English," new edition; "Character Sketches" and "Thoughts on the Temptation of Our Lord," by Norman MacLeod, D.D.; "The Character of St. Paul," by J. S. Howson, D.D.; and "Sundays on the Continent," by Thomas Guthrie,

The New Haven *Palladium* appeared last Monday in a new dress throughout of copper-faced type, and at the same time altered its style of "make up." The first page now presents the telegraphic news, the second contains the editorials and miscellany, the third is filled with advertisements, and the fourth is devoted to local and state news, state correspondence, etc. The *Palladium* is fast taking a leading place in New England journalism.

The *Aldine* for April contains, the promised quarterly frontispiece, a beautiful design by Victor Nehlig, entitled "Morning Dew." This splendid plate would be no mean adornment, if framed, and hung in a room. There are two other full page plates, "Evenings at Home," a charming representation of home life; and a view of "The Hudson at Hyde Park." The numerous remaining illustrations fully sustain the high character of the *Aldine*, and the literary character of the journal begins to show that Mr. Stoddard's connection with it is being felt. As we announced a few weeks since, Mr. John M. Parker, 178 State St., New Haven, who is the general agent of the *Aldine* for Connecticut, delivers them without folding and the plates are therefore uninjured. Back numbers can likewise be obtained at the same place.

The Mystery of Orcival.*—The author of this novel is known to but few Americans, aud they such as have read his productions in the French language. The best of these are said to be "Monsieur Lecoq," "The Lerouge Trial," "Infernal Life," and "The Slaves of Paris." The first mentioned is said to have now a French reputation quite equal to that attained in England and America by the works of Wilkie Collins. In the volume before us, Monsieur Lecoq appears again as a detective, and his achievements are said to excel those related in the previous narrative.

The mystery from which the stroy derives its title, like the mysteries of Collins, is the principal source of interest—in this book, an intense interest throughout, increasing as the reader advances, up to the moment of revelation. The characters are finely drawn, the conversation varied to suit the characters, the plot happily conceived and skillfully developed, and the style, so far as we can judge from a translation, chaste and classical.

Apparently the work of translation has been faithfully performed, though it is possible that a few inelegant phrases, found here and there in the volume, are a free rather than a fair rendering, and introduced because of their present popularity. It seems hardly possible that the slang phrases in use on this side of the ocean, should also be in use on the other side in another language, or that they should have a place in a book, the style of which, in all other respects, is so polished.

Unless we greatly mistake the taste and judgment of the American people, the publishers of this work, after it shall have been read will be required to republish the the other works of this author, or at least those of them above mentioned.

**The Mystery of Orcival.* Translated from the French of Emile Gaboriau. By George M. Towle. New York: Holt and Williams. 1871.

Fair to See.*—We have long since felt that, when we find a book in this series, it is of itself a guaranty of goodness. Of course they are not all of equal merit—there is a variety, as there ought to be; but in tone and spirit they are alike, always of a high moral character. The one before us is not the peer of some that have preceded it, in more than one particular. The name of the author is new to most Americans, though familiar to the readers of fiction in England, the source from which most of the stories of this collection are obtained. But the death of Dickens, Thackery and other novel writers of that country, has made it necessary to supply the demands on this side of the ocean, from the productions of authors less celebrated.

This story is a little tedious at the outset, but after the perusal of ten or twelve pages, the reader begins to feel an interest, which increases for a time, and continues to the end. The plot is equal to, possibly above the average, but by no means as good as it might have been by a different disposition of the denouement. The conversations are sprightly, suited to the characters introduced, and very well sustained; they are really the best portions of the narrative. There are a variety of characters, some of which are cleverly delineated, Pigot especially, and perhaps we may also include McKillop. The hero of the story, Bertrand Cameron, a highlander by descent, Laird by right, is a man faultless in point of honor, but a little too sentimental, and in character not quite strong enough to escape our compassion. The story derives its name from Eila McKillop, who is, as represented, "fair to see." There is crime and mystery. together with some pleasant surprises, and some bitter disappointments, to heighten the interest of the narrative Altogether, it is perhaps quite equal to the average of the stories reprinted from Great Brittain.

**Fair to See*: A Novel. By Lawrence W. M. Lockhart. New York: Harper & Brothers, Publishers, Franklin Square. 1872.

Pictures of Life in Camp and Field.*—This volume is composed of the fragments of some old letters, contributed nine years ago to the Chicago Evening Journal. Of these letters, the author says "they are not in disguise," but "wear the every day apparel of first expression just as it was fashioned at the Front." These letters contain a description of three important events in the experience of the Army of the Cumberland—the preliminary battle, the capture of Lookout Mountain and the storm of Mission Ridge. These events occurred respectively on the twenty-third, the twenty-fourth, and the twenty-fifth days of November, in the third year of the war—1863. They were important events, not merely in themselves abstractly considered, but in the very great influence they exercised over the fates of the two grand contending armies.

**Mission Ridge and Lookout Mountain:* With Pictures of Life in Camp and Field. By Benj. F. Taylor. New York: D. Appleton & Company. Chicago: S. C. Griggs & Co. 1872.

As a contribution to history, these letters are not of much consequence. The story of the three November days, in which occured the battle, the capture and the storm, has been written many times since the war, and they are among the events of the period most familiar to the American people. But as "pictures of life in camp and field," as seen by the author, and described while every thing was still in view or fresh in the recollection, they are really of very great interest. Indeed, as pen-pictures of battle scenes, they are among the very best ever presented to the public—true to the fact, graphic and gorgeous in description.

The qniet pictures that follow the three great events above mentioned—as the hospital after the battle, the mountain camp, the flag of truce, the flash of sunshine, the scout and the spy, and woman, the soldier's friend,—are as fine specimens of word-painting as one could desire to meet in plain prose devoted to the truth. They will not only serve to impart to the members of the valorous Home Guards," who "never smelt gunpowder," some idea of "life in camp and field," but will revive in the true soldier who "scents the battle afar of," a lively recollection of his "dread experience," "in the hour of danger," "in the cause of his country."

It is a handsome volume, neatly printed on tinted paper and bound in style both attractive and durable.

Eating and Drinking.*—It is so long since the appearance of this book, that we have hesitated whether not to leave it unnoticed. It was sent to our table in due time after its publication, but soon after mysteriously disappeared. A day or two since, and long after we had given up all hope of its recovery, we found it again lying just where we had left it weeks ago. It is soiled and crumpled, and some of the leaves are turned down at the corners, from which we infer that it has been carefully perused by somebody. As these marks are found with intervals all through the volume, we also infer that it has been read with some degree of care, perhaps satisfaction.

For our own part, we think it a valuable book. It is designed to be a companion treatise to the volume, by the same author, on Stimulants and Narcotics. The purpose of the work is to give a description and history of the principal articles of ordinary consumption, and to show their relation to each other, and their complex influence on the human system, as modified by race, climate, age, sex, habit, and the progress of civilization. It is also a purpose of the work to expose widely the prevailing errors in regard to this subject, and to point out and enforce those practical rules of dietetics which the experience of mankind has illustrated and confirmed.

A principal object of the author is to raise hygiene to a science, based upon experience, and confirmed, guided and illustrated by chemistry, physiology, and other allied sciences. The work before us is intended as a contribution to that end, and is put forth in the confident belief that the object for which it was written will be achieved. It was not without a realization of the many difficulties he must encounter and overcome, that the author set himself to the fulfilment of the task. But he has proceeded with decision and determination, attacking errors that have been long rooted in the popular mind, and extirpating them with the help of facts and conclusions that can not be questioned.

It has been said of this volume, that it is only a compilation of facts and the experiences of mankind, in different ages and countries, and under various conditions and circumstances. As of necessity it must be such in a certain measure, we can not perceive any good reason for the objection. The facts may be regarded as the foundation of the argument, and yet that can not militate against the force of the reasoning, or the correctness of the conclusions. In our estimation, the anecdotes are a most entertaining portion of the

**Eating and Drinking:* A popular manual of Food and Diet in Health and Disease. By George M. Beard, M.D., New York; G. P. Putnam & Sons. 1871.

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work, without which the other portions would lose much of their interest, and the work itself much of its value. If the inferences were stated and the facts wholly omitted, not only would the interest be diminished, but conclusions now received without question, might be rejected as unwarranted assumptions.

Portions of this work were originally published in THE COLLEGE COURANT, and were then widely read and admired. We regarded them as of great importance at the time, and have reason to believe that they were of substantial service to many erring sufferers. In their present form, so much more convenient, and so easily reproduced to any extent that may be desired, their usefulness must be very greatly increased.

Christian Theology and Modern Skepticism.*

This little volume is a covert attack on the Christian religion, under the pretense of historical examination. It is not however, in form or in fact, philosophical or scientific, and hence is comparatively harmless, even in this age so rife in daring speculations. The point of attack is the extent of the inspiration of the New Testment. This is claimed by the author to contain a revelation, rather than being itself a revelation. His theory, accordingly, opens a wide door for the admission of imperfections, mistakes, errors, and contradictions of writers claimed to be inspired. The Pauline Epistles are regarded as especially valuable in this respect. It is claimed that the Apostle not only failed to develop Christ's system of religion, but taught a separate and antagonistic one. The basis-error of the Duke, in his speculation, is in his utter want of appreciation of the great Apostle. The bigoted Jew and the proud Pharasee, brought up at the feet of Gamaliel, is constantly before him and not Paul the chosen disciple. Hence he sees, or thinks he sees, the influence of Jewish prejudice, and traditional theology in all his epistles. In that way he acounts for the doctrine of atonement, as contained in the Epistle to the Hebrews, which he affirms, finds no countenance in the teaching of Christ, and that of justification by faith as found in his Epistle to the Romans, so subversive, as he thinks, of good works as inculcated by the Evangelists. The portraiture given in the book, is of Saul a member of the Jewish Sanhedrim, holding in blind devotion to the tradition of the fathers, and not of Paul who received the gospel not of men, or by men, but was taught it of God. A like want of appreciation is manifest in regard to the Protestantism of the 19th Century. The established church of England is taken as the type and exponent of that protestantism. All scientific investigation and discovery is represented as outside of this form of Christianity, and the progress of society as effected independently of its influence. The author, by thus giving a caricature of protestantism, makes it comparatively easy to maintain an antagonism between "Theological Systems and the Demonstrations of Science." Strangely ignoring the facts in the case, he says: "It is humiliating to be obliged to confess that, after eighteen hundred years of Christian teaching, man has made no advance in certainty of religious knowledge. In every other branch of knowledge assiduous study and preserving industry have been rewarded with at least partial success. But the labor of successive generations, the services of men set apart for the teaching of theology, the accumulated learning of ages, all alike fail in establishing any generally acknowledged convictions." Such is the inference drawn from a limited and prejudiced survey of the Christianity of the age. The Duke appears even more ridiculous it the garb of a Prophet, than in that of a critic. This is one of his sage predictions of future events. "There are many indications that none of the existing denominations will resist the mental wear and tear of the next fifty years." This little volume exhibits considerable research and familiarity with history, but the reasoning is so unsatisfactory and its speculations so visionary, only superficial readers will accept the conclusions reached.

Christian Theology and Modern Skepticism. By the Duke of Somerset, K. G. New York: D. Appleton and Company.

COLLEGE RECORD.

Washington University, (St. Louis, Mo.)—The Physical Laboratory of this institution, which occupies the large room on the third floor of the new building has been furnished and is liberally supplied with apparatus and instruments necessary for a thorough understanding of Physics and Mechanics. The apparatus, with the exception of one or two pieces which were purchased in Europe, was manufactured in Boston and embraces every thing which is likely to instruct and interest the student in this department. Additions will be made from time to time as necessity demands. The Laboratory was opened for the first time on the inauguration of Dr. W. G. Eliot as chancellor of the university.

Cornell University, (Ithaca, N. Y.)—The trimestrial examinations of the second term closed last Friday. The register issued a few weeks ago shows the attendance at present of 595 students, 23 less than the recorded number of last year. Prof. Loomis, who was elected Professor of Physics last Summer, has resigned on account of his health, and will return to New Haven. Prof. Wing left recently on a tour of inspection of all the principal chemical laboratories in Europe. He will remain abroad until next September. The proposition of Mr. Sage in reference to a Female Department is now considered a fixed fact. The necessary buildings, for which Mr. Sage makes an immediate payment of $75,000, will be commenced during the Summer. He has made an additional donation of $15,000 for a chapel building, with the provision that the University secure a like amount. Already the shadow of the coming feminine throng has reached the University, and a half dozen ladies attend lectures and recitations daily. The Senior Class this year numbers 73, only four of them being classical students. The Spring Trimester commences April 3rd.

Berea College, (Berea, Ky.)—A recent number of the *Christian Union* has the following in reference to this Institution: "Berea College, in Kentucky, is the Oberlin of the South. Its doors stand open to whites and blacks alike. It is a centre from which the influences of education, freedom, and Christianity strike out into all the surrounding country. Many years ago its foundation was laid by a colony from the North, led by John G. Fee. It throve amidst persecution; and though just before the war its leaders were banished by a committee sent from Richmond, Ky., its members had already become a part of the community. They are recognized now by the people as not aliens, but belonging to the soil. In this they have a practical advantage that newcomers from the north cannot attain. Their college is based on the highest and soundest principles, and is wisely administered. It is in the hands of thoroughly competent men. To any who want to give help to the best of causes—the development of the new life of the South—we say, Here is an admirable chance. You cannot give your money where it will do more good. It is as sure to bring forth fruit as the Lord's rain to nourish the earth."

Syracuse University, (Syracuse N. Y.)—Rev. Daniel Steele, D.D. Vice-President of this Institution proposes to resign at the approaching Commencement, to enter upon the pastorate of a prominent Methodist Episcopal Church in Boston. In a "card" to the *Syracuse Journal* explanatory of his action, he says:

"The sole motive is the fact that the Lord has *anointed* me to preach the Gospel. This recent anointing has so drawn my attention almost exclusively to Christian themes and to efforts for the salvation of my fellow men, that I find myself constantly exhausting my energies in this kind of labor. In this state of the facts I have deemed it best for the University and for myself that I should devote myself to the Christian pastorate for which my soul has an unappeasable hunger, and that I should not rob the University by serving her with a divided heart. I regard myself as called of God to spend the remainder of my days in the ministry of the Lord Jesus, an office infinitely above any to which the unanimous suffrages of my fellow men could exalt me. * * * * A modest man begs pardon of the public for this disclosure of his personal feelings, a revalation deemed necessary by reason of the prominent part with which he has been entrusted in the opening of the Syracuse University. May she live long and ever stand on Jesus Christ the corner stone."

University of Deseret, (Lincoln, Nebraska).—This institution was opened on the 6th of September, 1871, with addresses by the chancellor, A. R. Benton, and J. Stirling Morton. On the next day students were enrolled, and during the first week ninety were matriculated. The number has continually increased, so that the number of students now on the rolls is about 130. Only those were admitted who were competent to enter the Latin School or the University. In the latter there are representatives in the Freshman, Sophomore, and Junior classes. The campus on which the single university-building is erected, contains twelve acres. Two sections of land have been appropriated for the use of an Agricultural College which will be opened as soon as practicable. About $1,300 have been expended in philosophical apparatus for the Department of Physics. It has been obtained from Ritchie of Boston. The Chemical Department is also well supplied. The library contains about a thousand volumes. A reading room adjoins the library, and about $1,200 have been spent upon both. The cabinet contains about a thousand mineral specimens, and negotiations are in progress for the addition of about seven thousand more. It is likewise expected that a large collection of shells will soon be secured. The Spring term begins April 4, and continues twelve weeks.

Michigan University (Ann Arbor, Michigan).—We learn from the *Chronicle* that during the week ending February 24th, a record was kept in the library which gives the following statistics: Whole number of books drawn, 1357. Classified according to subjects, 204 of these were history—Grecian, 48; Roman, 24; English, 43; French, 29; United States, 30; other countries, 30—434, bound volumes of periodicals; 72, encyclopædias; 18, political economy; 25, ethnology; 17, popular scientific works; 56, fiction; 11, travel; 93, medicine—periodicals, 28; theses, 20; others, 45—85, general English literature, biographies, essays, etc.; 10, education; 35 translations of Latin and Greek authors; Grecian and Roman literature; 28, poetry; 10, rhetoric; 96, on government, civilization, laws, religion, etc.; 68, mathematics—pure, 5; applied, 63—51, miscellaneous. The authors most read were, in history, Grote, Hume, Thierry, and Bancroft; in political economy, Carey; in ethnology, Darwin; in popular science, Winchell; in fiction, Warren; in travel, Taylor; in poetry, Dante. The periodicals most used were Blackwood, the Edinburgh Rev., the London Quar., the North Am. Rev. and the Westminister; of the Encyclopædias, the New American, and the Brittanica were most frequently called for. The daily average attendance in the library for the week was 139.

Williams College, (Williamstown, Mass). From the Williams *Vidette* we learn that "The new boarding-house is now to be considered a settled fact. Recent advices from the the Chairman of the New York Committee, Mr. C. A. Davison, place the matter upon a firm financial basis, and insure the immediate prosecution of the work. The building is to be a fine one, costing some $10,000, $5,000 of which will be furnished by the Alumni resident in New York, the remaining $5,000 coming from the College funds. The old presidential mansion is to be removed, and the house, as stated in our last, placed at quite a remove from the road, with a fine lawn and drive-way in front. It is to be forty-two feet by seventy, three stories in height, crowned by a Mansard roof, and will contain twenty-two rooms. A portion of these rooms will be rented to the Professors, the income from which will go to cheapen the price of board. It is one of the conditions of the New York subscriptions that good board be given the student a

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two dollars and a half per week, and this, we are authorized to say, will be carried out, even in case the actual cost much exceeds this amount.

Our friends in New York have responded warmly to this appeal, having pledged already over $4,000. We are not furnished with a list of the subscriptions, but understand that $2,000 of this is given by four gentlemen, to wit: D. D. Field, Class of '25, Edward Clark, Class of '31, C. A. Davison, Class of '43, and William T. Booth, Class of '50."

Lawrence University, (Appleton, Wis.)—A few years since some students of this institution originated the idea of endowing a chair to be called the Alumni Professorship. An agreement was entered into between the Alumni Association as the representative of all who have been at any time students in the University, and the Joint Board of Trustees and Visitors, the provisions of which are substantially as follows:

All sums of money contributed to the University by any person may, at the request of the contributors, be credited to the Alumni Endowment Fund.

This Fund shall be securely invested by the Trustees, and its interest shall be applied to the payment of the salary of some graduate of the institution, if such graduate be employed as teacher in the University; if no graduate be employed during any year, the interest for that year shall be reserved to augment the principal.

When subscriptions to this fund shall have reached the sum of $5,000, the contributors shall be entitled to designate the name of the chair to be endowed; provided no new professorship be designated without the consent of the Trustees until the fund shall amount to $15,000.

The election which determines the chair to be endowed is to be held at the regular annual meeting of the Alumni Association. Each contributor may vote either in person or by proxy, being entitled to one vote for every ten dollars subscribed.

The right to elect the occupant of the chair is vested in the Joint Board, subject to the restriction that such occupant shall be a graduate of the University.

The subscription to the above fund prior to the Annual Commencement of 1871, amounted to $3,200. At that Commencement the few Alumni present contributed the further sum of $1,025. There yet remains the sum of $775 to be subscribed before the alumni will be entitled to select and name their chair, and an appeal has been issued calling for subscriptions sufficient to make the scheme a fixed fact before next commencement.

Bowdoin College.—(Brunswick, Me.) Professor Upham, who so long served the college in the chair of Mental Philosophy, but is now emeritus, was suddenly prostrated by paralysis at the house of a brother in New York, on the 9th inst. Sight and speech were both effected seriously, and at last accounts he was able to articulate a few monosylables only. He has just conducted through the press a volume of poems, entitled "Christ in the Soul." Probably the care and labor were too great for him, and hastened the progress of the disease, under which he was already laboring. He will long be remembered as the author of "Upham's Mental Philosophy," "The Life of Faith," "The Interior Life," and "Divine Union."

Professor Packard, who is slightly Professor Upham's senior, is still vigorous, and performing with great acceptance the duties of his office as Professor of Natural and Revealed Religion, and pastor of the College. In a sermon before the students on the day of College prayer, he noted the fact that he had seen *fifty-eight* classes graduate, and touchingly alluded to the fact that he could not in the course of nature officiate on a like occasion, many times more, and perhaps, even this would be his last. The services of the day were very interesting and instructive. It is not certain whether Professor Packard's remarks had anything to do with the following testimonial, but a few days since the Professor was made the recipient of a handsome gold headed cane, inscribed "To Prof. A. S. Packard, by the class of 1872, Bowdoin College."

Dr. Thomas Dwight, Jr., lecturer on Anatomy in the Medical School, has been elected Instructor in Anatomy at Harvard.

Major Sanger, Military Professor, has commenced his duties by having the Senior class in International Law, and having a daily "setting up" drill with some portion of the three lower classes.

The present term closes April 9th, and the next begins April 18th.

Yale College, (New Haven, Conn.)—Our readers will find many of the minor items of Yale news, which usually appear in this column on the two pages next to the last. This arrangement is used in order to present reading matter upon every page except the covers.

The literary activity of the college has seemed to be much greater this winter than usual, and has been especially manifested in lectures. Some of the courses are now drawing to a close. Prof. Eaton gave his last lecture on Greek Sculpture last Monday evening. The Mechanics' Course closes with two, or possibly, three more. Mr. Beecher's lectures have come and gone, and Ex-President Woolsey's lectures on the Heathen Religions have now all been delivered.

Prof. Trowbridge gave a very interesting lecture on "Steam Boilers" last Monday evening, in the Mechanics' Course.

Dr. Sanford has concluded his Medical Lectures to the seniors.

The death of the open societies threatened to carry with it also the utter extinction of the prize debates. But it seems that this was not so to be. Prof. Northrop has taken the matter in hand, and it is now announced that there will be a debate in Brothers Hall upon the first Saturday evening in next term, open to members of the Junior class upon the question: "Is there danger of too great centralization of power in our Government." It is understood that some twenty have signified their intention to enter and there is every prospect of entire success. Due attention has been given to prizes. It is expected that Prof. Northrop will preside.

A very enthusiastic boating meeting was held by the Freshmen on Saturday last, to make preparations for the work of the coming season. Mr. Howard, President of the club, presided, and the best of spirit prevailed. A shell had already been ordered, and it was voted to purchase a barge. A committee consisting of Messrs. Jenks and Selmes was appointed to collect the sum of $300 which it was announced would be necessary. So enthusiastic was the class, and so efficient was the committee that more than the sum required was raised the same afternoon. Mr. Cook was chosen to go to Boston to purchase the boat, but by an arrangement since made Mr. Parsons, the President of the University Club, was selected to perform this duty. The probable members of the freshman crew have been at work in the gymnasium, under charge of the efficient Captain Cook. There is a decided desire to get up a race with Harvard '75, for the coming summer, which it is to be hoped will be done. Meanwhile the crew will continue to practice for, the Phelps barge and shell races in May and July. The class is to be congratulated on the spirited manner in which it has entered upon boating.

YALE PERSONALS.

'38, STRONG.—Rev. Edward Strong, D.D., of Pittsfield, Mass., formerly of this city, has been called to the pastorate of the Congregational church in West Roxbury, Mass., of which Rev. Wm. S. Hubbell (Yale, '58) was recently pastor.

'38, WARREN.—Rev. Israel P. Warren, D.D., formerly Secretary of the American Tract Society, Boston, has been, since Jan. 1, the senior member of the new firm of Warren, Broughton & Wyman, booksellers and publishers of Sunday-school books, etc., in New York and Boston. Dr. Warren is editor of the books published by the firm.

'40, GREGORY.—Dr. Samuel Gregory, the founder of the New England Female Medical College, Boston, died Saturday, March 23d. He was born in Guilford, Conn., and devoted his life to the education of women in certain branches of the medical profession.

'51, JENKINS.—Rev. J. L. Jenkins, of Amherst, occupied the pulpit in the college chapel both morning and afternoon last sunday. His friends and parishioners have expressed their gratification at his declining his recent call to the Harvard church of Brookline, by giving him $1,000.

'53, TWINING.—Rev. Kinsley Twining has resigned his pastorate of the Prospect Street Congregational church, Cambridge, Mass: and accepted the call of the Union Congregational church, in Providence, R. I., his last resignation to take effect at the end of April.

'54, TWOMBLY.—Rev. A. S. Twombly, now pastor of the Presbyterian church in Stamford, accepts the care of the Winthrop Congregational church in Charlestown, Mass., and is expected to be installed pastor about May 1.

'58, LEE.—Rev. S. H. Lee's church; (Greenfield, Mass., 2d Congregational), refused to call a council for the dismission of their pastor that he may go to Cleavland, O., and request him to withdraw his resignation of his pastorate at Greenfield.

'59, WILCOX.—Rev. Asher H. Wilcox, pastor of the Congregational church, in Preston, has received and declined a unanimous call to the pastorate of the 1st Congregational church, in Norwich. Rev. H. P. Arms, D.D., (Yale '24), who has been pastor of this church for over 35 years, retires on an annuity of $1.000.

'64, FIFIELD.—Mr. Charles W. Fifield, of the last senior class in the Yale Theological Department, is to supply the Congregational church in Heath, Mass., for a year.

'66, JUDSON.—In the Nashville (Tenn.) *Union and American* of Feb. 9th, we find the following: "Mr. F. N. Judson, formerly one of our highly esteemed citizens, now a resident of St. Louis, and private secretary of Gov. B. Gratz Brown, of Missouri, yesterday led to the altar one of Nashville's loveliest ladies, Miss Jennie Eaken, daughter of Mrs. Felicia Grundy Porter, and grand-daughter of Hon. Felix Grundy. The ceremony was performed at 11 A. M., at the residence of the bride's brother-in-law, Capt. Steger, on High street. The devoted mother and the family kindred were present with a few select friends. The imposing and impressive ceremony of the Episcopal church was performed by Rev. Mr. Graham, rector of Christ church, and the cordial congratulations of those present were extended to the bridal party. After partaking of an elegant collation, the fortunate couple left for St. Louis via Louisville, taking with them the sincerest wishes for future happiness and prosperity of their many, many friends in this city."

'67, HARTSHORNE.—Rev. J. W. Hartshorne who has been preaching for two years past at Riverton, Conn., having concluded his engagement there, has returned to New Haven.

'70, SPAULDING.—Randall Spaulding, who is still teaching at Rockville, Conn., is spending most of his Spring vacation in New Haven.

'70, S.S.S., WATSON.—J. G. Watson is with his father in the large manufacturing business, called the Ayr Agricultural Works, near Paris, Kentucky. A recent number of the Paris *Transcript* contains a long account of a visit to these works.

'71, DAVIDSON.—W. E. Davidson, who assumed the principalship of Woodstock Academy, at Woodstock, Conn., soon after graduation is meeting with good success. A recent number of the *Transcript* contained a long and highly complimentary account of the closing exercises of the winter term.

'71, PETTINGILL.—E. L. Pettingill is studying medicine in the office of his father, Hancock, N. Y.

'71, REED.—Charles Reed is still at his home in Abington, Mass. He has not yet decided upon his future work, but is devoting some attention at present to comparative anatomy.

'71, RICHARDS.—B. S. Richards is still in business in Canandaigua, N. Y.

'71, SPROAT.—When last heard from, T. C. Sproat was still at his former home in Millbury, Mass.

'71, TOWNSEND.—W. Townsend is still in Walton, N. Y., but intends to commence the study of law, in the office of Judge Mason, Utica, New York, about the first of May.

'71, WILLIAMS.—Robert E. Williams is enjoying good health at present, and is engaged in Civil Engineering in Nashua, New Hampshire. His post-office address is at that place, or, care Williams, Page & Co., 91 Water street, Boston, Mass.

— Three students of Wabash College, one senior, and two sophomores have been dismissed from that institution for devoting too much time to billiards and liquor drinking.

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GLEANINGS.

PERSONAL.

— Bishop Williams has recommenced his lectures on English History before the senior and junior classes of Trinity College.

— Prof. Mommsen has lost his membership of the Societe des Antiquairies de France, because he wrote against France during the late war.

— Dr. W. C. Tilden, professor of chemistry in the Georgetown University, has been elected to the professorship of chemistry in the Howard University.

— Rev. M. W. Fairfield, once President of the Olivet College, and more recently pastor at Dartford, Wis., has assumed charge of the Plymouth Congregational Church at Lansing, Wis.

Prof. J. L. Campbell, professor of Mathematics in Wabash College, at Crawfordsville, Ind., has been appointed chairman of the committee on foreign affairs in the coming American Centennial Exposition, in 1876.

— Dr. Neil Arnot, of London, a distinguished writer on progressive science, who has given liberally to the London University, has presented the Mechanics' Institute, Aberdeen, five hundred pounds to aid in sustaining a lecturer on natural science.

— Rev. Dr. R. L. Dashiell, President of Dickinson College, Carlisle, Penn., has been chosen one of the delegates from the Newark Conference, to the General Conference of the Methodist Episcopal Church, to be held in Brooklyn, N. Y. next May.

— President Chamberlain of Bowdoin College holds weekly receptions, which are much enjoyed by the students. He announces his intention of reading the Scriptures consecutively in the chapel exercises Sabbath evening, adding familiar explanations.

— The students of the Boston Theological Seminary have expressed their appreciation of the course of lectures recently delivered before them on the "Life and Writings of St. John," by the Rev. James M. MacDonald, D.D., of Princeton, N. J., in an appropriate address to him.

— Prof. Theodor Goldstücker, Professor of Sanskirt in the University of London, died recently. He was a profound and accurate master of Sanskrit scholarship, and left many works, the labor of years, in manuscript, which, singularly enough, he wished to have burnt after his death.

— The Life of Henry Dunster, first President of Harvard College, by the Rev. Jeremiah Chaplin, D.D., is published by James R. Osgood & Co., in a 12mo volume of 315 pages including the appendix and index. The first president of Harvard College was deposed from office on account of religious differences between himself and the ruling officers of the colony, and his memory has fallen into neglect. This is an attempt to gather up and preserve such records of his career as can at this day be obtained, and to do tardy honor to a man of singularly pure and upright character.

COLLEGE.

— There is a chance to study Hebrew in Notre Dame University, Notre Dame, Ind.

— The fine Ruhmkorf coil for the use of Profs. Buck and Carmichael, has just arrived at Iowa College.

— The Fund for McMicken University, at Cincinnati, is gradually increasing, having now reached a little above $400.000.

— A bill was introduced into the U. S. Senate last Monday, by Mr. Howe, of Wisconsin, to establish a national university.

— The Trinity College Parthenon, the Debating Society, has had a resurrection and lively debates are held every Monday night.

— Otterbein University has a new bell which weighs 1031 pounds and cost, including hanging, freight, erection, etc., about $170.

— The usual Oxford and Cambridge race, was rowed over the old course from Putney to Mortlake, last Saturday, and resulted in a victory for the latter.

— A purse of fifty dollars is offered for the best thesis written by a member of the graduating class of the Law School of Washington University St. Louis, Mo.

— A college is to be established in Bushnell, Illinois, called "The Central Wesleyan College of the Southwestern Conference of the German Methodist Episcopal Church."

— During the recent religious interest among the Students of Ohio Wesleyan University, the lessons were shortened and the students very generally attended the meetings.

— Mr R. H. Bayly, a Virginian by birth, and lately dead in New Orleans, left $70,000 to endow a professorship in the Washington and Robert E. Lee College," Lexington, Va.

— The question of taxing Harvard College property is still vexing the people of Cambridge, Mass. President Eliot thinks the city should pay something for the privilege of having the college within its limits.

— The University of Minnesota, has a Student's Christian Association. Lectures are given on Sunday afternoons, and Bible lessons and lectures on Wednesday evenings, by Professors Brooks and Campbell.

— There is an interesting revival in the church and college at Ripon, Wis. The pastor, Rev. L. J. White, has been assisted by the President and professors, and by neighboring pastors. Many of the converts are students.

— The Wesleyan Female College at Macon,, Ga. is said to be in a very flourishing condition. Over two hundred pupils are in daily attendance upon its recitations, nearly half of whom are inmates of the college building.

— The first public prize debate between the Philokalian and Philomathean societies of St. Johns College, at Annapolis, Md., was announced to take place March 22. The question was "Ought Capital Punishment to be abolished."

— Urbana University at Urbana, O., has received from the estate of the late William G. Cranch, of Washington, about two hundred volumes in classical and standard literature, and a large collection of minerals, coins, and historical relics.

— The Bowdoin College Boating Association has contracted with Elliott of New York for a six-oared cedar boat of the best model, and an experienced boating man has been engaged to train the crew, which will contest the championship with other colleges, this summer.

— Sewanee University located on a plateau of the Cumberland mountains in Tennessee, has been in existence now three years and has matriculated in that time nearly four hundred students. It is under the control of the Episcopal Church, and in possession of about fifteen square miles of land.

— The private library of the late Marquis de Morante, rector of the University of Madrid, which was recently sold, consisted of one hundred and twenty thousand volumes, of which a large number were very rare and valuable, some of them once belonging to the Popes and other European potentates.

— In the Chicago Theological Seminary the present year there are of resident licentiates 2; seniors 6; middle class 21; juniors 8; second year specials 3; first year specials 10; total 50. These students represent nine colleges, and eleven States, besides one from Canada, and one from Africa.

— The Emperor of Germany has sent a catalogue of such books as his private library contains double copies of to the University of Strasbourg, bound in a handsome volume, requesting the authorities to note such books as will be of use to them. Such his Majesty's expresses himself desirous of presenting as a gift to the new library.

— By an act of the State Legislature, approved March 1. 1872, the Regents of the University of Minnesota are to provide for a Geological and Natural History Survey of the State of Minnesota. One thousand dollars per annum are appropriated to do the work. Students and graduates of the university are to be preferred as assistants. Rooms are to be provided in the University as a Museum, and kept open for public inspection free of cost.

— A course of free evening lectures is being given in the University Hall of Washington University. The following are yet to be delivered: April 5th, Æsthetic Culture, by A. F. Conant; April 12th, Greek Literature, by Prof. Thomas Davidson, St. Louis High School; April 19th, Something about Coal, by W. B. Potter, professor of Mining and Metalurgy; April 26th, Skilled Labor in Missouri, by Prof. S. Waterhouse; May 3d., Spectrum Analysis, by Dr. A. Litton, professor of chemistry.

— The new religious society at Harvard College, known as the "Servants of Christ," and composed of Evangelical students who look forward with more or less certainty to entering the ministry, is said to be in the hands of some of the best students. It has already some twenty-five members. The society would be glad to enter into correspondence with ministers of the several Evangelical denominations. Communications may be addressed to the Corresponding Secretary of the Upsilon Chi, Cambridge, Mass.

— A project is on foot in Utica, N. Y., to remove the William Curtis Noyes Law Library which belongs to Hamilton College and is now in its possession, to Utica. The mover in the project is the Utica Bar Association, and the inducements which they propose to offer the college are to place the library in a fire proof room, and by additions render it as complete in works of later date, as it now is in old authorities. They would also offer an extra course of law lectures to the law students of the college, provided the law school be removed to Utica, likewise. It is thought that it will take between $5,000 and $10,000 to make the additions desired.

— Mr. William Thaw, of Pittsburg, has made another munificent offer in behalf of the Western University, of Pennsylvania. The proposition is, in brief, that if the State, and the City of Allegheny, will relinquish to the University all claims upon the site and buildings of the Western Penitentiary, Mr. Thaw will assist the state in procuring a new site and the erection of new buildings for the Penitentiary. He will also give to the University $100,000 to be expended in the erection of suitable buildings, and in the ornamentation of the grounds. It will be remembered that Mr. Thaw had already donated, at one time $50,000, and at another time $100,000, to the funds of the University.

— At the recent commencement exercises, the ninth, of the New York Medical College for Women, the degree of M. D., was conferred upon the following: Helen J. Underwood, Portage City, Wis.; Harriet E. Brown, Brooklyn, N. Y.; Julia E. S. Bell, Brooklyn, N. Y.; Juliet P. Tiffany, Oneida, N. Y.; Mary P. Sawtelle, Salem, Oregon; Amanda Jerard, New York City; Emma Scott, Brooklyn, N. Y. The annual report of the Dean Mrs. C. S. Losier, M. D., shows a satisfactory condition of the institution. Within the year past, $5000 have been received from a lady in Massachusetts, to be devoted to providing greater facilities in the study of clinics. There are thirty-four students in attendance upon the college, in addition to the graduating class.

— The fourth annual commencement of the Women's Medical College of the New York Infirmary was celebrated last Tuesday evening. The degree of M.D., was conferred on nine graduates, as follows: Mary Nickerson Baker, of Maine; Nancie Monelle, Ellen Frances Hammond, and Emily Anthon, of New York; Phœbe Jane Ferris, of Connecticut; Elizabeth Susan Harr, of Maine; Sarah F. McIntosh and Elizabeth M. Cushier, of New Jersey, and Mary Jane Studley, of Massachusetts. Dr. S. W. Ward presented to Miss Emily Wells the prize for the best report of eye and ear clinic; to Miss Nancie Monelle the prize for the best report of surgical clinic, and to Mrs. Sarah F. McIntosh, the prize for the best examination in physiology. Dr. Mary C. Putnam and Josepn H. Choate delivered addresses.

LIFE INSURANCE REFORM.

THE KNICKERBOCKER LIFE COMPANY.

Life Insurance exists in this country to the amount of more than $2,000,000,000, and draws from the people more than $100,000,000 annually. It has multiplied itself tenfold in ten years. Fifteen years ago the whole amount insured was not more than the present premium income of a year. These facts show the subject to be one of great public interest.

A commodity in such demand should be of the best quality The methods adopted in the business and the laws regulating it should be the wisest. Mathematical and sound science should do for it whatever can be done by the strongest brains under the highest stimulus. That this has not yet been done, appears too plainly from the following facts. Ten years ago the companies were terminating in a year, that is losing, of *whole life* policies, rather more than half as many as they issued. For example, nineteen companies doing business in Massachusetts in 1861 issued 11,462 new whole life policies insuring $29,228,000, and cancelled 6,236 old ones, insuring $15,418,000, thus involving a net increase of only 5,226 policies, insuring $13,810,000. Of the 6,236 old policies terminated only 613 were by death being insured to the amount of $1,741,000. Thus, for some reason or other 5,623 policies for life, insuring $13,677,000, were given up in a single year, nearly 10 per cent. of the business existing at the commencement of the year. Whatever may have been the cause of this great loss of business ten years ago, when fewer endowment policies were issued, and when on account of the

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greater prevalence of the practice of paying the premium partly by note, the lapse of policies involved less loss to the insured, that cause must have greatly increased in activity up to the present time. Though a vast amount of business was done in 1871, many companies made no net gain, some lost, both in number and amount of policies and the most prosperous gained but little more than they lost.

Take the five largest companies from which we have returns conclusive on this point. They had outstanding at the beginning of 1871, 201,270 policies insuring $566,242,862. They issued during the year 51,592, insuring $118,264,331, and they cancelled in the same time 37,962 old policies, insuring $100,445,408. Supposing —for we have not the mortuary returns—that 1800 of these resulted in death-claims to the amount of $6,445,-408, we have a loss by lapse of 36,162 policies insuring $94,000,000 or about 17 per cent of the business existing at the beginning of the year! It is quite probable that this loss of business is somewhat exaggerated by the inaccuracy of counting as polices issued, those which are made out by the company on application and forwarded to the agent but never taken. They will appear as losses in the succeeding year. In this case the company has wasted the expense of the medical examination. But on much the greater part of the 36,162 policies one or more premiums had been paid so that they represent a considerable sacrifice of money and a large amount of disappointment on the part of the insured.

It is plain enough mathematically that no business can long continue to increase, if its ratio of loss increases annually, and its ratio of gain decreases.

If we inquire carefully into the causes of this non-persistence of life-insurance policies we shall find them principally these:

1. The absurd and inequitable manner of assessing the working expenses.

2. That the longer one remains in the company the more it costs him to have the policy cancelled, so that if one begins to foresee that he may wish to retire before the termination of his policy, he will see that the sooner he does it the better.

The Saving's Bank plan, adapted by the Knickerbocker Life Insurance Company of New York, reverses all this, by assessing the expenses of the management on each member in proportion to the insurance that the company has contracted to do for him, and making its charge for surrender, in direct proportion to what remains of it to be done. Thus the longer one stays in, the smaller his share of the expenses, and the less it costs him to get out.

This is effected by an exact distinction between the insurance and self-insurance, on every policy for every year of its existense, which is attached to the policy in a tabular form; and by a stipulation in the body of the policy of a precise cash surrender value, payable at the end of any policy year, should the holder desire then to withdraw. The charge for surrender, being proportioned to the present value of the insurance that remains to to be done by the company, of course grows less as the policy grows older. As the self-insurance, or amount of annual Saving's bank deposits is always increasing, it follows that the surrender value, which is the difference between the fund in the Saving's bank and the charge, increases still more rapidly. This psesents a strong inducement to every one who enters to persist as long as he has any occasion for insurance, and if it does not diminish the amount of lapses, will greatly diminish the lapses of retiring members, and the consequent dissatisfaction therefrom.

Another great advantage of this entire separation of the insurance from the self-insurance, is, that it is the most effective safe-guard to the solvency of the company. The danger of drifting into insolvency, and the need of special and laborious governmental supervision to prevent it, which are peculiar to life insurance, come from mixing up things that ought to be kept distinct. The Insurance part of a life insurance company, taken by itself is as simple and safe as any other kind of insurance. Indeed it is more so, as the claims that will arise from death are much more subject to pre-calculation than those which will arise from the destruction of property by the elements. So the Saving's bank part of a life insurance company, taken by itself, is as simple and safe as any otherS aving's bank. Its only legitimate relation to the insurance department is to diminish the amount which the company insures, by acting as so much *self-insurance*, and incidently to stand as security for the payment of a proper indemnity to the company in cancelling the insurance centered in a good life. The danger comes from regarding the *whole* premium as paid for insurance, which is simply allowing the Saving's bank fund to be borrowed from or plundered at will, in favor of its coördinate branch of the company's business. On the newplan,the two departments,in regard to every policy from its beginning to its end, are kept perfectly distinct on the company's books. Consequently the footings of these books at any time, give the exact liabilities of the company on its policies. No valuation has to be made at the end of each year to define the self-insurance fund, and sum that should be in reserve, because the work has been done in advance. There is no need of separating two things that have never been mixed. Treating its insurance business on insurance principles, and its Saving's bank business on Saving's bank principles, a company will avoid getting bewildered itself and consequently be far less likely to bewilder the public.

The stipulated cash surrender value has two important aspects: First it makes the company directly and immediately responsible to its constituents. They can appoint themselves receivers and wind it up when they see fit. If they should make a mistake and wind it up when not verging towards insolvency, it would have sufficient funds left to reconstruct itself. If they should act for good cause, then they would fare far better than the policy-holders of life insurance companies in chancery have ever yet done. Second, it prevents the money of the policy-holder from being always wholly locked up from himself. The surrender value, which always grows to be considerable in a few years, being patent on the face of the policy, is as good a security in the money-market, as the company's note or bond.

The facts already referred to show that something serious is the matter with life insurance as at present conducted. It would occupy too much space to show fully what this is. Suffice it to say, by an error in providing for and apportioning expenses the policies that ought to be the most desirable are the least so. The Saving's bank plan is a complete correction of this error a nd reduces to well-known business principles what has always been a non-descript in the business world.

ELIZUR WRIGHT.

THE NEW METHOD OF EXTINGUISHING FIRES.—Underwriters have no idea of the extent of their obligation to that useful little appliance, the Babcock fire extinguisher. Two recent letters from leading railway officials have been shown us, in which the merits of the apparatus are referred to in a way which the companies can appreciate. The superintendent of the Michigan Central railroad states that the company has 120 of the machines at various points on the road, and from 35 to 40 actual fires have been put out with them, and a large amount of property thus saved from impending destruction. Superintendent Harris, of the Chicago, Burlington and Quincy company, on whose line there are 230 of these machines, reports that the company's buildings have been "repeatedly" saved by them, and "large conflagrations prevented." This latter gentleman volunteers the opinion that "their general use would render fire a rare circumstance." A large hotel at Stevens' Point, Wis., was saved from destruction in December by *one* machine, under circumstances which even to an underwriter must appear remarkable. The proprietors of the hotel state the case thus: "A few evenings since, on a table at the head of the main flight of stairs, stood *sixteen* kerosene lamps, just lighted for use. By the explosion of one they were *all broken, turned over and exploded, and in an instant a large and powerful fire was in progress*, which would have destroyed the largest hotel in this city, and, in all probability, the entire business portion of the town, had it not been for the prompt use of a Babcock extinguisher, which put the fire out in *less than one minute.*" In another instance, if possible still more noteworthy, a shed filled with barrels of benzine and kerosene oil took fire, and was soon, of course, a mass of flames. Water was of no use, and the business portion of the town seemed about to become ashes, when an extinguisher, which had been unused for two years, was brought upon the scene, and then the fire was quickly extinguished. Such examples as these, of the efficiency of the Babcock apparatus, in fighting fire under its fiercest aspects, justify the hope that underwriters will, with a view to their own interests, urge the general introduction of this system of self-protection, at least in localities and establishments where their own capital is largely endangered. And in the smaller towns, where fire departments and facilities for extinguishment are either unknown or more useless than none at all, fire agents should be instructed to use their influence for the adoption of a substitute so ample, and a defender so trustworthy. A cheap and simple machine whose past record includes the putting out of over 1,000 actual fires, and the saving of more than $8,000,000 worth of property cannot very sensibly be ignored by the insurance companies, for it, in fact, is itself the insurer of the companies.—*From the Spectator for March.*

PUBLISHER'S NOTES.

Mr. E. Seymour, proprietor of the New York Mineral Agency, 52 Beekman street, has collected specimens of rocks, fossils and minerals, illustrative of Dana's text books on Geology and Mineralogy. The specimens number just one hundred, and are neatly put up, convenient for inspection, and comprise many valuable ores and minerals, collected from all parts of the globe. Every student of geology should be possessed of a set. The price is $25.00.

Mr. L. J. Marcy, of Philadelphia, has recently made so decided an improvement on the Magic Lantern, that it might without impropriety be called a new invention. The use of chemical lights have hitherto proven to be too troublesome, and expensive, and oftentimes too dangerous to be used on ordinary occasions. By Mr. Marcy's simple invention, nothing is required but common coal oil, burned in two lamps, the flames of which are brought together by a powerful draft, forming an intense light, by which a circle of ten or twelve feet in diameter is brilliantly illuminated. The workmanship is of good material and the best order, and the lantern, when packed, convenient and portable. As a means of imparting instruction, the sciopticon cannot be too highly valued, bringing to our view the wide world's wonders without travel or fatigue. Moreover images from the past have come down to us, and we can join company with the successive generations of men, and admire the triumphs of ancient art and perseverance. It is particularly valuable in the lecture room, and for a parlor or school exhibition may well be substituted for the more expensive instruments.

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Students can often assist themselves pecuniarily in going through college by canvassing for some good book. We call attention to the list of agents wanted in our advertising columns.

F. P. Follett, of Hartford, has a novel stamp for marking clothes. Students will appreciate it.

WRY FACES, caused by indigestion, laugh after taking Williams' Extract Jamaica Ginger. 70

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YALENSICULA.

From Yale Courant, Mar. 27, 1872.

Maltby Park is being rapidly robbed of geological specimens by enthusiastic Seniors.

The conditioned and vitiated members of '72 reënter into chemical affinity with Prof. Wright on Saturday next.

Forty Juniors are absent, either sick or otherwise.

Sixty-six Seniors have obtained satisfactory class pictures.

'72 will probably not be the largest class that ever graduated.

Any person having Nos. 3. 4. 5. 27. of the Vol. of COURANT issued by '71, and willing to dispose of the same will confer a great favor by conferring with us.

Prof. Dana announces that in view of the late severe weather, he will probably have to defer his geological excursions with the Seniors, until next term.

The Seniors were initiated into the mysteries of the Medical School Museum last Thursday.

The Trumbull paintings are doing service at an art gallery in Brooklyn, N. Y.

New bulletin boards now deck the entries of the old college buildings in addition to those previously placed in Farnam and Durfee.

Chapin, '72, has been obliged on account of ill health, to leave college until the beginning of next term.

In past extenuation of Yale's having graduated Judge Barnard it may be stated that he was expelled from Sigma Eps during his freshman year for failing to meet his pecuniary obligations.

Junior Exhibition, and subjects for Townsends probably given out, next Tuesday.

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, APRIL 6, 1872. NUMBER 14.

THE ORIGIN OF MICROSCOPIC LIVING FORMS.

A second extra lecture in the Mechanic's Course of the Sheffield Scientific School was given Monday evening, April 1st, by Prof. W. H. Brewer, on the "Origin of Microscopic Living Forms". The lecturer began by saying that whenever we examine the water of brooks, ponds ditches, etc., and even sea water, with microscopes of sufficient power we nearly always find in it more or less living forms. Nor are these living forms confined to water alone. Their remains are found in the strata of the earth, in the soil, and even in the air which we breathe. They present a wonderful variety both in shape and nature, and are both animal and vegetable. Some are fixed on stalks and look like vegetables, and yet are believed to be animals; while some are free like animals and yet are believed to be vegetables. They are of great variety of form, and are alike only in this, that they are very small, invisible to the naked eye. From the fact that these minute beings swarm in infusions they early received the name, *infusoria*.

Regarding their origin there has been much discussion of late, and many theories have been advanced. And, said the lecturer, were I discussing the subject before an audience of expert microscopists I might find more than work for the hour in treating this question alone. But in view of the circumstances he thought better to treat:

1st. The main facts regarding the existence and mode of occurrence of these beings.

2nd. The principal theories advanced concerning their origin.

3rd. Experiments bearing on those theories.

4th. Difficulties attending the study and investigation of the subject.

5th. The practical questions most immediately involved.

As has been said these beings occur in natural waters in immense variety and number. Like larger living things they have been arranged into orders, genera species and varieties. To enumerate their names alone would require a course of lectures. One order, living in both fresh and salt water, called Diatomaceæ are so abundant that strata of soft rocks, miles in extent are formed of their silicious shells; and so numerous that the number of their well defined species has never been estimated. Another similar order with silicious shells is called Desmidiæ, and there are besides the Foraminifers, with shells of lime which strew the bed of the ocean. With regard to the great mass of these species, which differ from each other as much as the larger animals and plants, there is no question as to their immediate origin. It is universally allowed that they are not spontaneously generated, but are reproduced from parents as in larger animals, or at least in obedience to analogous laws. These, therefore, may be left out of the discussion. With regard to others, however, there is still vigorous questioning going on, and it is this field which demands attention.

If we take almost any vegetable substance and make an infusion from it, and then allow the infusion to stand exposed to the air for a few days, we find minute animals and plants formed within it, although nothing could be detected before. A turnip infusion is a very common one of this kind and a very good one with which to experiment. As an example of these little infusoria yeast celles or torulæ may be mentioned. They consist of a little sack enclosing another sack, and within is a fluid in which minute specks are held in suspension. They are sometimes round and sometimes oblong, and multiply indefinitely by fission. The shape, peculiarities and mode of reproduction by fission of these were illustrated on the board by the lecturer, who affirmed that they always accompany fermentation, although we cannot positively say that they are always the cause of it. The microscope with which they are seen was also shown and an estimate made of the relative size of things that were magnified 800 diameters. The microscope shown magnified that number of times and had a field of view of less than $\frac{1}{15000}$ of a square inch and yet said the lecturer, this minute space is swarming with life, hurryhither and thither making big journeys in a single drop of water, and reminding one of a little patch of ice covered with boys and girls, sliding, skating, and mixed up in inextricable confusion.

But where did these little creatures come from? Some believe that they arise from eggs or spores produced by previous generations of similar beings, and others that they are produced spontaneously. And this brings us to the theories that have been advanced to account for the origin of these living forms. Only the principal however can be enumerated as follows:

1. That they are produced by parents.

2. That all living bodies are made up of living molecules which continue to live whether the animal does or not, and that these infusoriæ or cells are such molecules.

3. That when the chemical compounds necessary for the nourishment of low forms of life are in proper condition, protoplasm is formed in obedience to chemical and physical laws, just as other chemical substances are made; and that the protoplasm thus formed without the intervention of life, has the property of life, and cells are formed and growth begins.

4. That mineral matter does not produce protoplasm in obedience to mere chemical laws, but that bodies that have had life do; that the protoplasm, thus formed does not die when the animal does, but may again generate life.

5. That living bodies not only produce like bodies, but also something unlike the original, as for example, the tape-worm in man.

With regard to these theories it may be said that all have been held in modern times, and each with several modifications. The first seems most philosophical, most in accordance with the facts as now understood, and the one most favored by analogy. The second is now entirely abandoned. The third is held by more persons, and is perhaps the most interesting from its supposed theological bearing. This bearing may be explained by saying that two hypotheses together are supposed to do away with the necessity of a Creator, which hypotheses are; first, that living matter may arise from dead matter directly in obedience to chemical and physical laws; and second, that the living things thus originated may propagate in the usual way and develop to something higher. The fourth theory is still held by a few persons, and although much less broad than the last, is just as important in some of its practical bearings. Thus the fungi that appear in the decay of certain substances are the result of the decay, and yet when once originated may produce serious results, as we see with the potato disease. The fifth theory is interesting but we now know that most of the examples used to prove it, such as the tape-warm, trichina, etc., are the result of natural propagation.

But what means have been taken to prove the truth or falsity of these various theories? One side claims that the germs are in the air or water, and that the living germs are in fact introduced into the infusion and then hatch. The other side on the contrary, claims that although there are some germs in the air, which may get into the infusions, yet the beings will still grow if these germs are excluded, and those in the infusion killed and fresh ones excluded. Many kinds of expedients have been devised to collect these germs in the air. Thus the air has been allowed to trickle with water over powdered glass, or has been drawn or blown through liquids or glycerine. And the dust obtained contains nearly every thing that can be pulverised, but at the same time, germs. Whenever we collect the dust in the atmosphere, we always find in it many minute organic germs, or spores or monads or whatever they may be called, and these vary in size from $\frac{1}{8000}$ of an inch down to the smallest that can be perceived with the microscope. At the same time they are so potent that the white of an egg cannot be exposed one minute without swarming with ferments. Besides the germs, however, we find sand, bits of lint, epithelial scales, bits of stone, iron, etc., etc. Starch likewise is nearly always present. But the important fact is, that when the proper infusions are exposed to the air which contains this dust etc., fermentation always takes place.

There have been therefore many efforts made to exclude these germs. These consist essentially for the most part, in heating the infusions to kill any germs that they may contain, and then keeping them from receiving fresh ones by sealing them up. Bastian's view is that although these precautions may be taken, the infusions will still bring forth life. He regards that bactriæ and vibriones may be killed by heating them to 212° F., but claims that an infusion will produce life even after it has been heated above 300° F. In this he combats Pastuer, who like Huxley maintains an opposite view. In the experiments made on this point the air has been drawn in over hot tubes, and in fact after the infusions had been sealed up in glass tubes, they have been subjected by boiling, to heat sufficient in the minds of the experimenters to kill any germ that might be there.

But said the lecturer, will this heat kill the germs? Although it may kill the animals after they are hatched will it kill the germs before they are hatched? We know that wheat will stand almost any degree of cold in the kernel without destroying the vital germ, but only a slight frost, when the wheat is in blossom, will destroy a whole field. So also plants have been found in hot springs. And if the germs of plants will stand such a degree of cold, but perish at comparatively slight cold when once they have passed from the germ state, may it not be true that the heat which will kill the animals in an infusion, will still leave the germs alive. To illustrate still further the lecturer described some experiments of his own. A pepper infusion was allowed to freeze two hours, and when thawed again the infusoiræ were still alive. Again it was frozen two days, and when thawed they were still alive. The infusion was then allowed to dry up and remain so for a week, and when moistened again living forms could still be seen, showing great vitality.

On this point, however, as to the origin of this life there is a direct conflict of testimony. Bastian and others claim that life will result even when the germs are killed and others excluded, while Huxley, Pasteur and others maintain the opposite view. There seems to be an honest difference of opinion. It may be said, however, that the most reliable observers are overwhelmingly of the belief that all life is from antecedent life or in the words of the old Latin aphorism, *omne vivum ex vivo*. And each good investigation reduces the number of supposed cases of spontaneous generation.

The facts of the case may be stated as follows: 1. The old view of organic and inorganic compounds in chemistry has been broken down. 2. All allow that beings do arise where the germs cannot be distinguished by the best microscopes yet made. 3. That some of these lower forms are so variable that what was once

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supposed to be several species, are now known to be often, only phases of the same thing. 4. Although it is highly improbable that *all* forms of living beings are derived from one original, yet many of the so-called present species appear to have been produced from earlier similar species. The whole question must be regarded as yet among those that are unsolved, and should be approached in a candid and scientific spirit. I believe, said the lecturer, that it will ultimately be shown that all life is derived from antecedent life, and that the beginning rests with the Creator. The dispute which has raged so fiercely has arisen to a great extent over the misunderstanding of terms. Protoplasm, a word well known to scientific men for a long time has been the innocent cause of much contention. Ponderous essays have been hurled against it, and the whole contest reminds one of the dispute of O'Connell with the abusive fisherwoman.

The doctrine of spontaneous generation is an old one and once universally held, and has only been considered a pernicious belief since its connection with a development hypothesis. St. Paul seems to favor this doctrine in that famous passage, "Thou fool, that which thou sowest is not quickened except it die." Up to about two hundred years ago the belief was almost universal that maggots breed in putrid meat, and when in 1668, Francisco Redi demonstrated that maggots were always the offspring of flies, he was charged with perverting the Scripture. And through the whole conflict it is curious to observe how theories have fluctuated, just according to the improvements of the microscope.

And this brings us to the consideration of the difficulties of observation. These may be briefly stated as. 1. The exceeding smallness of the objects to be viewed; 2. The fact that the objects seen are looked through, a mode of vision which we use with nothing else. 3. It requires on educated sight. 4. The difficulties of illumination; and 5. The false appearances which may arise from refraction, diffraction, and other phenomena of light. When we consider that with an instrument which magnifies only 3,000 diameters, a six foot man to appear his natural size must be only $\frac{1}{12}$ of an inch long, and as large around as a hair, that the field of view is $\frac{1}{15000}$ of a square inch, that when an object is magnified 3,000 diameters, the light which naturally falls upon it must be weakened just so much, or so much greater light must be concentrated upon this minute space, and that only one eye can be used, we have some idea of the difficulties of the research. And again some microscopists use instruments which magnify 5,000 or even 10,000 diameters. But notwithstanding the power of the instruments used, it should not astonish us if we cannot even then see the original germs. For let us make a simple calculation. Some of the great trees of California are over 300 feet high and 30 feet in diameter. Such a tree is estimated to contain 250,000 feet of lumber exclusive of the branches, or 36,000,000 of cubic inches. The cubical contents of a seed of one of these trees may be put at from $\frac{1}{10000}$ to $\frac{1}{20000}$ of a cubic inch, and its length at from $\frac{2}{10}$ to $\frac{3}{10}$ of an inch. In one of these trees then we have a living being from 10,000 to 15,000 times as large as the largest dimension of the seed—not the germ however—and from 50,000 to 75,000 million times its cubical contents. And if we may suppose that the relation between these microscopic living forms and *their* germs is at all analogous, it is not unreasonable to consider that they exist, though we may not be able to see them.

But, have these questions no practical bearing? are they merely curious and interesting speculations? It is indeed a subject of immense practical importance. Diseases of both man and animals are caused by microscopic organisms. As samples of these may be mentioned, the itch, a disease known as favers, and all the phases of ring-worm. So also certain diseases of vegetables, such as rust, mildew, and blight of crops, the grape disease, and the potato rot. In all these cases the animals are known to reproduce from others. There are also numerous other contagious and epidemic diseases, which seem to be of like character, although their causes are not so well known. Such are small-pox, kine-pox, and sheep-pox. Extensive experiments, made on these diseases, go to show that the infecting material is minute particles, and the problem becomes to destroy them. It is also but a step from there contagious disease to epidemic and malarious ones, such as cholera, and the plague, although the cause is here more obscure. That treatment of these diseases, however, has been most successful, which regards them as caused by living organisms. Some malarious diseases are checked by cold, as the yellow fever by a frost. The silk-worm disease, may also be placed in this category. The subject may be summed up as follows: 1. We know that some diseases are caused by minute organisms. 2. That others apparently are, and 3. That of those that are certainly so caused, the organisms are not spontaneously evolved. Beyond this we are still in the dark, but every year brings a solution to some new case, and they all point the same way, viz: that these great scourges are caused, by minute organisms not spontaneously generatd. If so, the remedy is simply to keep the seeds or spores away from the body, but if they are spontaneously generated, there is no hope of extirpating them, and unless a specific is found the race must continually suffer.

Professor Brewer is an interesting lecturer. Earnestness in delivery unites with an occasional pleasing turn of an illustration, to hold the attention of the audience, and a happy way of stating and arranging his matter, renders his efforts to instruct, both agreeable and successful.

SIX INDIANA COLLEGES.

BY PREST. JOSEPH F. TUTTLE, WABASH COLLEGE.

According to Commissioner Eaton's report Indiana has nineteen colleges. Of the most of these I shall say nothing, or very little, for the reason that I am not acquainted with them. Franklin College, which has done a great deal of good work for Indiana, has recently succumbed to its embarassments, which seem to have been too great even for its late excellent and able President, Dr. Wayland. I am told that the cheap scholarships are at the foundation of its difficulties, and this cause has been aggravated by certain rights of voting conferred as a condition of the scholarships. Whether my information is correct or not, the college is reported as suspended, at least for the present.

The State University at Bloomington, is the oldest institution in the State if we take the date of its charter in 1828. The Academy which was the germ of Hanover College had been in operation three years. In 1828 Dr. Andrew Wyler, a graduate of Washington College, Pa., became the president of the State University and held the office until 1851. He is represented as a man of decided ability, as he must have been a man of sharp points, or he could not become the target at which Bayard Hall fired his humorous book, known as "Three years and a half in the New Purchase." Theophilus Parvin, of Indianapolis, a pupil of the doctor, has pronounced on his president a graceful eulogy.

In 1862 the cash income of the university was $5,200, the income of State bonds held by it. By the sale of lands its capital is considerably increased, and in addition there have been appropriations to it from the State Treasury, making its present income some $24,000, which is a handsome increase in ten years. This will be enlarged without doubt by the next Legislature as the movement is favored by leading men of both political parties.

The last college year there were 53 in the Law Department, 122 in the Classical and Scientific College classes, and 133 in the "Select Course, Irregular, and Sub-Freshman," the last three items being—as I suppose—equivalent to the ordinary Preparatory Department. It had 33 ladies most of whom are residents of Bloomington.

Hanover College is situated on the high grounds overlooking the Ohio River, and is six miles from Madison. The Rev. Mr. Crowe started the original school with six boys in 1825. Until the founding of Wabash it was the only Presbyterian College in Indiana. Since 1832 it has had twelve Presidents—two of them *protem.*—and several of them have been men of national reputation. Few abler men have occupied a position in our Western College faculties, than Drs. McMaster and Thomas. Rev. Dr. Heckman, is now filling the chair with marked success. Financially the college has had a struggle for life which has only been the common lot of Western institutions. During the last year the financial reports of Hanover have improved so that now it is reported self-supporting. In 1871 President Heckman reported that it had graduated 346 students of whom half entered the pulpit. Eight hundred of its students became clergymen, and over 3000 young men have studied there. Its religious history has also been one of very great interest. When Dr. H. accepted the presidency the number of students in attendance was very small, smaller than for many years, but the increase has been most gratifying, over 150 being reported as in attendance during the first term.

Of Wabash College I need speak but little inasmuch as the editors of the COURANT have recently published two articles on its present condition and the character of one of its benefactors, the late John C. Baldwin of Orange N. J. To let the college have its place in this syllabus of the leading Indiana Colleges I may select from the COURANT'S articles a few items.

"Since 1864 the permanent cash funds of the college, aside from those raised to build and furnish the North and South wings the portico and the gymnasium, have been increased from about $30,000, minus a debt of $10,000, to about $140,000. There are also several thousand acres of wild land belonging to the college, which are constantly growing in value.

It has several fully endowed scholarships. The funds are in the treasury for the completion of the South wing of the main college building, as also of the portico. When finished it will be a noble building, and adequate to the wants of the college for a long time. The spacious and beautiful gymnasium has been inclosed and partly finished by the energy of Col. Carrington. The addition to the facilities of the College furnished in these buildings still leaves the college out of debt. The college has come into possession of its part of the estate of the late John C. Baldwin, of Orange, New Jersey, amounting to $28,000. This money is now at interest and by direction of the testator its income is to be used in assisting promising young men on certain specified conditions.

The income of the Baldwin Fund is already aiding some men, and must become a great power in Wabash College."

The college has grown in all respects and bids fair still to increase. It has eight professors and two tutors and the present year about 225 students.

The Methodists of Indiana are very numerous, and whilst the denomination is well represented in the faculty of the State University, its people could not be content without an Institution of their own. The Indiana Asbury University is at Green Castle, and had last year, 298 males, and 35 females in both departments. So far as any income to the Institution is concerned, it practically gives free tuition on account of the large number of free scholarships that have been sold at a low price, and which are readily secured by the students. The funds of the Institution amount to about $100,000 besides the buildings and other property. A new and costly edifice for college purposes is now going up, and will be finished this year. The funds are pledged for the building. The faculty is composed of earnest scholars who are doing a great work in the state.

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The North Western Christian University at Indianaplis has valuable grounds, but I know very little of its history. It has had a large local patronage, and is said to be in a prosperous condition. It had last year 299 students, of whom 80 were females. It belongs to the Christian Disciples—sometimes known as Campbellites.

Earlham College is at Richmond, in the Eastern part of the State. It was started in 1860, is under the control of the Friends, boards its students, and admits both sexes Its religious character is admirable and it seems to furnish a thorough education to its students. Last year it had 208 students, of whom 77 were females, and 22 were in the regular college classes. Its endowment is not large, and its friends are agitating the question of enlarging its funds.

The first two years of the war were dark years for these loyal colleges in Indiana. Their students rushed into the army. The endowments, very small at the best, in 1863 were not worth fifty cents on the dollar, and the teachers laboring on small salaries had great difficulty to live at all. In the third year of the war a change for the better took place. Wabash College has realised for buildings, endowments, and charity funds since that time at least $175,000 in cash besides the enhancement of its lands. Hanover, Asbury, North Western, and the State University, have also realized large gifts in money or its equivalent. If we reckon the increase from the latter as though coming entirely from an investment, within ten years half a million of dollars have been added to the capital of these colleges, not including the North Western, with whose finances I am not familiar. In the matter of libraries these colleges make no great show. Hanover has 6,400 volumes; Asbury 10,000; the North Western none reported; the State University 5,000; and Wabash 12,000. By the purchase of the Owen Cabinet the State University is too rich for its present building. Wabash has a peculiarly rich collection highly praised by Prof. Tenney, of Williams, but of the cabinets of the other colleges I have no knowledge.

I have mentioned these colleges because I happen to be somewhat acquainted with them, and have omitted none of the balance from any want of respect to them. The present indications are that these colleges will grow in number and wealth, and be (we trust) the worthy peers of older and richer institutions at the East.

THE HASSLER EXPEDITION.

ANOTHER LETTER FROM PROFESSOR AGASSIZ,—DISCOVERY OF A NEW CRUSTACEAN.

[The following letter from Prof. Agassiz, written two days before the expedition left Rio for Montevideo has been received by Professor Benjamin Peirce, superintendent of the United States Coast Survey.]

RIO, ON BOARD THE HASSLER,
FEB. 12, 1872.

MY DEAR PEIRCE; On January 18, Pourtales dredged to a very late hour during the night, the weather being more favorable for this kind of work than it had been at any previous time since we left Boston. As I did not dare to remain exposed to the dew, I missed the most interesting part of the proceeding, about which Pourtales will report himself. The next morning, however, I had an opportunity of overhauling the specimens brought up by the dredge, and to my great delight I discovered among them another of those types of past ages, only found nowadays in deep water. The case is entirely new, as the specimen in question belongs to the Pectinidæ, a family the relations of which to earlier geological formations have thus far presented nothing especially interesting or instructive, except perhaps the fact that the type of neither is exclusively cretaceous. I wish I had within my reach the means of making a full statement of the facts; but I have not the necessary books of reference, and must in this case trust entirely to my memory.

Among the most remarkable species of pecten there is a very small one figured in Goldfuss under the name of *pecten paradoxus*, if I remember rightly, and found in the lias of Germany, which I have always been inclined to consider as the type of a distinct genus on account of its structural peculiarities. As yet nothing like it has been made known among the living shells. Now, among the few specimens dredged on this occasion in 500 fathoms depth, off the mouth of the Rio Doce, there was one living specimen of the same type as *pecten paradoxus*, showing particularly and very distinctly the prominent radiating ribs rising on the *inner* surface of the shallow valve to which the fossil is indebted for its specific name. Like the fossil, the living species is of small dimensions, measuring hardly two-thirds of an inch. I hope I may be able to dissect the animal at some future time and work out the anatomical character of this exceptional type. With it a few other shells already known to us from deep waters were also found; among them two beautiful species of Pleurotomria, identical with species found in Florida, off Barbadoes.

In my first letter to you concerning Deep Sea Dredging, you may have noticed the paragraph concerning Crustacea, in which it is stated that among these animals we may expect "*genera reminding us of some Amphipods*, and *Isopods aping still more closely the Trilobites than Serolis.*" A specimen answering fully to this statement has actually been dredged in forty-five fathoms, about forty miles East of Cape Frio. It is a most curious animal. At first sight it looks like an ordinary Isopod, with a broad, short, flat body. Tested by the characters assigned to the leading groups of Crustacea, whether we follow Milne-Edwards's or Dana's classification, it can, however, be referred to no one of their orders or families. As I have not the works of these authors before me, I shall have to verify more carefully these statements hereafter. But I believe I can trust my first inspection. The general appearance of my new Crustacean is very like that of Seroles, with this marked difference, however, that the thoracic wings are much more numerous, and the abdomen or pygidium is much smaller. It cannot be referred to the Podopthalmarians of Milne-Edwards (which corresponds to the Decapods of Dana) because it has neither the structure of the mouth, nor the gills, nor the legs, nor the pedunculated eyes of this highest type of the Crustacea; nor can it be referred to the Tetradecapods of Dana (which embrace Milne-Edwards Amphipods and Isopods), because it has more than seven pairs of thoracic limbs; it cannot be referred to the Entomostraca, because the thoracic wings are all provided with locomotive appendages of the same kind. But it has a very striking resemblance to the Trilobites; it is, in fact, like the latter, one of those types, combining the characteristic structural features of other independent groups, which I have first distinguished under the name of synthetic types. Its resemblance to the Trilobites is unmistakable and very striking. In the first place, the head stands out distinct from the thoracic regions, as the buckler of Trilobites; and the large, kidney-shaped, facetted eyes recall those of Calymene; moreover, there is a facial suture across the cheeks, as in Trilobites, so that were it not for the presence of the antennæ which project from the lower side of the anterior margin of the buckler, in two unequal pairs, these resemblances would amount to an absolute identity of structure. As it is, the presence of an hypostome, in the same position as that piece of the mouth is found in Trilobites, renders the similarity to this extinct type of Crustacea still more striking; while the antennæ exhibit an unmistakable resemblance to the Isopods. In view of the synthetic character of these structural features, it should not be overlooked that the bukler of our new crustacean, for which I propose the name of Tomocaris Peircei, extends sideways into a tapering point, curved backward over the first thoracic ring, as is the case with a great many Trilobites

The thorax consists of nine rings, seven of which have prominent lateral points, curved backwards, like the pleural of Olenus, Lichas, etc. The sixth ring is almost concealed between the fifth and seventh, and is destitute of lateral projections, as is also the ninth. These rings are distinctly divided into three nearly equal lobes by a fold or bend on each side of the middle region, so that the thorax has the characteristic appearance of that of the Trilobites, to which the latter owes its name. The legs are very slender, and resemble more those of the copepods and ostracoids than those of any other Crustacea. There are nine pairs of them, all aliks in structure, six of which, however, the anterior ones, are larger than the three last, which are also more approximated to each other. Besides the legs, there is a pair of maxillipeds attached to that part of the buckler which extends back of the facial suture. These maxillipeds resemble the claw of a cyclops. All these appendages are inserted in that part of the rings corresponding to the bend of the thoracic lobes; so that, if there exists a real affinity between the Trilobites and our little crustacean, and their resemblance is not simply a case of analogy, we ought hereafter to look to a corresponding portion for the insertion of the limbs of Trilobites. I do not remember with sufficient precision what Billings, Dana and Verrill have lately published concerning the limbs of Trilobites to say now what bearing the facts described above may have upon the subject, as lately discussed in the *Journal of Science*. But of one thing I am satisfied, since I have examined the Tomocaris Peircei—that trilobites are not any more closely related to the phyllopods than to any other entomostraca, or to the isopods. In reality, the Trilobites are, like Tomocaris, a synthetic type, in which structural features of the tetradecapods are combined with characters of Entomostraca, and other peculiarities essentially their own.

The pygidium or abomen of Tomocaris is very like the abdomen of the ordinary Isopods, with an articulated oar attached sideways, and leaf-like respiratory organs upon the under side. The whole pygidium is embraced between the last curved points of the side of the thorax. Owing to these various combinations, I would expect in Trilobites phyllopod-like respiratory appendages under the pygidium only, and slender articulated legs, with lateral bristles under the thorax so thin and articulated by so narrow a joint as easily to break off without leaving more than a puncture as an indication of their former presence.

It is impossible to study carefully the synthetic type without casting a side-glance at those natural groups which, without being strictly synthetic themselves, have nevertheless characters capable of throwing light upon the whole subject. And in this connection I would say a few words of Apus and Limulus. If I remember rightly, Milne-Edwards considers the shield of Limulus as a cephalothorax, in which the function of chewing is devolved upon the legs, while he regards the middle region as an abdomen, and the sword-like tail as an appendage *sui generis*. In the light of what precedes I am rather inclined to consider the cephalic shield of Limulus as a buckler homologous to that of the Trilobites, and the middle region as a thorax in which the rings show unquestionable signs of a division into lobes, as in Trilobites. The tail would then answer to the pygidium. Apus should be compared with the other Crustacea upon the same assumptions as Limulus.

Ever truly your friend,

L. AGASSIZ.

THE DARMSTADT POLYTECHNIC SCHOOL.

[We find in a recent number of *Nature*, the following epitome of the "Grand Ducal Hessian Polytechnic School."]

The object of the school is stated to be a thorough scientific, as well as artistic, education, for all technical pursuits, assisted by appropriate practical exercises. The Institution affords special facilities for the educa-

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tion of architects, engineers, mechanical and chemical technicists, manufacturers, craftsmen, and agriculturists. The Institution is divided into the following sections :—(1) the Lower School ; (2) the School of Architecture ; (3) of Engineering ; (4) of Machinery ; (5) of Technical Chemistry ; and (6) of Agriculture.

The Lower School aims at giving a general instruction in mathematics, natural science, and design, as a foundation for the special pursuits taken up afterwards. For admission into the school it is necessary that the student shall be sixteen years of age, and have received such an education as would be afforded by the highest class of a "Realschule," or the third course of a "Gymnasium," with the exception of the dead languages. This implies a knowledge of algebra, as far as equations of the second order, an acquaintance with logarithms, with plain geometry, and the elements of solid geometry, practice in German style, a knowledge of the outlines of history, and some practice in linear and free-hand drawing.

Examinations are held in the Lower School at the end of each half-year, in the other divisions at the end of each year ; a diploma is only given if the student gives satisfactory evidence of having completely mastered one of the branches of technical study in which special instruction is given. The payments consist of an entrance-fee of 5 fl., and a payment of 50 fl. per annum ; and in addition 6 fl. are charged for every day's work of 7 hours in the chemical laboratory ; 10 fl. for 2 afternoons of 3 hours in the physical laboratory.

In addition to the subjects required in each special department, lectures or instruction are given in the following subjects, and attendance on some of them is strongly recommended to all students, in order to give a wider culture than would be attained by exclusive attention to his special pursuit :—(1) Exercises in Literature and History ; (2) the French and English Languages ; (3) the General History of Art ; (4) National Economy ; (5) Commercial Knowledge ; (6) the Principles of Jurisprudence ; (7) Physical Geography ; (8) Zoology ; (9) Systematic Botany ; (10) Singing and Gymnastics.

The course in the Lower School extends over two years, in which the following subjects are compulsory : —First year. (1) History and Literature with the German Languages ; (2) Higher Algebra ; (3) Stereometry and Trigonometry ; (4) French ; (5) Outline Geometry ; (6) Free-hand Drawing. Second year. (1) History and Literature with the German Language ; (2) Analytical Plane Geometry ; (3) Algebraic Analysis, the Differential and Integral Calculus ; (4) Higher Algebra ; (5) Experimental Physics ; (6) Mechanics ; (7) French ; (8) Free-hand Drawing, (9) Outline Geometry.

In the special schools for Architecture, Engineering, Mechanics, Technical Chemistry, and Agriculture, the entire course extends over a period of from two to four years. The extent to which the studies are carried will be illustrated by the following abstracts of the curriculum in the Agricultural School, the shortest of the courses : First year—(1) Experimental Physics ; (2) Experimental Chemistry ; (3) Chemical Exercises ; (4) Histology and Morphology ; (5) Vegetable Physiology ; (6) Systematic Botany (with excursions) ; (7) Zoology ; (8) Mineralogy ; (9) The Study of Rocks ; (10) Anatomy of Domestic Mammalia ; (11) Physiology of Domestic Mammalia ; (12) External form of Domestic Mammalia ; (13) Agricultural Implements and Machines ; (14) National Economy ; (15) Mathematics ; (16) The Drawing of Plans. Second year—(1) Chemical Exercises ; (2) Agricultural Chemistry ; (3) Practical Microscopy ; (4) Practical Physiology ; (5) The Diseases of Plants ; (6) General Agriculture ; (7) Special Agriculture ; (8) General Breeding of Animals ; (9) Special Breeding of Animals ; (10) The Commerce of Agriculture ; (11) The Cultivation of Garden, Orchard, and Vine ; (12) Internal Diseases of Domestic Mammalia ; (13) External Diseases of Domestic Mammalia ; (14) Technology (Heating and Lighting) ; (15) Agricultural Book-keeping ; (16) Irrigation, Tilling, &c. ; (17) History and Literature of Agriculture ; (18) Practical Geometry.

To assist in the studies of the pupils there are chemical and physical laboratories, an experimental farm, mineralogical, zoological, and botanical collections, models of machinery, designs, libraries, excursions into the country, &c. Under special circumstances students can be admitted as "Hospitanten" to certain only of the studies, without going through the entire course ; but care is taken that this does not interfere with the regular studies of the other students.

THE GERMAN UNIVERSITIES AFTER THE WAR.

It is only since the beginning of the winter term that these seats of learning can be said to have returned to their normal state. A large number of young men were in the field for nearly a year, but even those in the army of occupation obtained leave some five or six months ago to return to pursue their studies. It is very interesting to observe the effect the war has had upon the attendance as well as the spirit of the universities. With some few exceptions, they are overcrowded this winter, because many old students who would without interruption have finished their courses by this time, have matriculated again along with the freshmen of this year. Quiet and busy work has entirely replaced the anxious bustle of the camp ; helmet and uniform are doffed ; even a medal and its ribbon have given place to the academical caps and badges. The names of those who died for their country, engraved on marble slabs, are already hung up in the halls of their respective universities. The most remarkable fact, however, appears to be that nearly every one of the survivors, unless he has preferred to join the army for good, as officer or surgeon, has resumed his academical course where he left off, with the greatest eagerness. The rush into "Fachstudium" has never been stronger in Germany than at present. The old patriots of the Wars of Liberation, who attended the universities soon after the peace of 1815, may deplore the total absence of that idealistic spirit which brightened or obscured the days of their youth ; yet there can hardly be a better sign of a healthy national development than this decided predilection of the young generation for matter of fact. The increase or diminution of the number of students in the different places may also be taken as symptoms of some further changes The contest between the great and small universities seems to be taking a new turn, which could hardly have been predicted a few years ago. The more expensive places, like Berlin, Bonn, and Heidelberg, are slowly going down, not always, however, from the same reasons. Berlin, which might be expected to be the great high school of the new empire, has yielded the palm at last to Leipzig. This is to be ascribed not merely to the supposed mismanagement of the most unpopular minister of public instruction Prussia has ever had, but to the drawbacks, especially the high prices and rents ; perhaps, too, the long distances unavoidable in a capital. Cities of a middle sizes are evidently taking the lead again. Bonn, on the other hand, besides the more luxurious style of life prevalent there, suffers at present from the interdict issued by the Archbishop of Cologne against almost all the professors of the Roman Catholic faculty because of their anti-infallibilist tendencies ; and Heidelberg still lacks a garrison in which the students may pass their year of military service. Places like Halle, Göttingen, and Tübingen, where the influence of academical establishments is supreme, and which on the whole are well provided for, have received more than their usual complement. Even some of the smallest size, like Greifswald and Marburg, continue in a highly prosperous state, which is chiefly due to the recent popularity of their faculties of medicine ; whereas another class, represented by Giessen, Kiel, and Rostock, seem doomed to die of exhaustion. With them, too, the causes of decline are multifarious. A small government like that of Hesse-Darmstadt has not the means of supporting any longer the establishment at Giessen on the scale demanded by the present development in every branch of learning and science ; and the old wealthy institutions at Rostock and Kiel are shunned by the Mecklenburghers and Holsteiners themselves, since they have the free choice of any university they like, whereas young men from the other parts of Germany hardly ever come to the shores of the Baltic, where life is both more expensive and slower than anywhere else. Yet Griefswald and Königsberg are to a certain extent exceptions to this rule. Jena, about fifty-five years ago the most fermenting seat of the "Burschenschaft," though not threatened exactly by a lingering death, has at last, as it were, succumbed to a musing condition of still-life. It may be hoped that the approaching reconstitution of Strasburg may prove to be the same successful experiment as Bonn, where, immediately after its foundation, the professors of name and celebrity as well as students from *all* parts of Germany began to flock.—*B. Pauli, in Academy.*

THE METEOROLOGY OF MARCH, 1872.

The mean temperature of the month of March at New Haven was 28·4 degrees which is 7·7 degrees below the average temperature of the month. The highest temperature of the month was 55·2 degrees on the 29th, the lowest was 1·2 degrees below zero on the 5th. The range of the thermometer for the month was 56·4 degrees, which is somewhat greater than the average range.

The mean temperature of the last month was the lowest that has ever been recorded for the month of March at New Haven. This record begins with 1779, and is continuous to the present time embracing a period of 94 years. The following are all the cases in which the mean temperature of March was as much as five degrees below the average for the entire period :

Year.	*Temp.*	*Year.*	*Temp.*
1872	28·4 degrees.	1819	30·3 degrees.
1799	29·6 "	1836	30·4 "
1856	29·8 "	1869	30·5 "
1785	30·2 "	1863	30·8 "

In order to extend this comparison over the six additional years required to complete a century, I have consulted President Stiles' Meteorological Journal which was kept at Newport, Rhode Island, during the years, 1773,-4,-5, and part of 1776 ; then for about a year at Dighton, Ms. ; and then at Portsmouth N. H., until his removal to New Haven in June 1778. From this journal it appears that in neither of these six years was the temperature of March more than three degrees below the mean temperature of that month at the place of observation ; so that we have good authority for asserting that the past month was the coldest March known in this region during the last hundred years.

The low temperature of March 5th was also quite remarkable, since only five cases have been recorded at New Haven in which the thermometer has fallen below zero in the month of March. These cases are as follows :

1835	temp.	9	degrees below zero.
1833	"	6	"
1784	"	5	"
1868	"	2	"
1872	"	1	"

The amount of rain and melted snow for the past month was 3·92 inches, which is half an inch more than the average fall. The amount of snow for the last four months has been 36 inches, which is six inches less than the average for New Haven. E. L.

Yale College, April 1, 1872.

— The experiments of Dr. H. Vohl, of Cologne, appear to prove that the carbonic acid obtained by heating charcoal is not derived from the coal itself, but has been absorbed from the atmosphere. This view is confirmed by the fact that when charcoal is freed from its carbonic acid and saturated with pure oxygen, no further trace of carbonic acid is discoverable, even when heated to 680° Fahrenheit.

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SCIENTIFIC.

PRISONERS OF NATURE.

The more a fact varies from the ordinary laws of nature, the more it merits the attention of the philosopher and amateur. When once sufficiently confirmed, however contrary it may be to prevailing opinions, it is entitled to a place in the ranks of knowledge. The following phenomena are of this kind. They are such as have occurred in the course of reading, and have been collected in the hope that some one, whose studies may have been directed to such objects, will enlarge the list. These phenomena are instances of living animals being found inclosed in solid bodies. The first case on record occurred in 1683, when M. Blondel reported in the Paris Academy that at Toulon oysters fit to eat were frequently found inclosed in pieces of stone. Two years later, M. de Cassini mentions a similar fact, on the authority of M. Duraffe, ambassador at the Porte, who assured him that stones were frequently found there in which were inclosed little animals, called dactyles. Some workmen in a quarry at Boursite, in Gotha, having detached a large piece of stone from the mass, found, on breaking it, a live toad. They were desirous of separating the part that bore the shape of the animal, but it crumbled into sand. The toad was of a dark gray, its back a little speckled; the color of its belly was brighter; its eyes, small and round, emitted fire from beneath a tender membrane, which covered them; they were of the color of pale gold. When touched on the head with a stick, it closed its eyes as if asleep, and gradually opened them again, when the stick was taken away. It was incapable of any other motion. The aperture of the mouth was closed by means of a yellowish membrane. Upon pressing it on the back, it discharged some clear water, and died. Under the membrane which covered the mouth was found, both in the upper and lower jaw, two sharp teeth, which were stained with a little blood. How long it had been inclosed in this stone is a question that can not be solved.

Another instance is related in a letter, dated 1780, and written from the neighborhood of St. Mascent. The writer states that, a few days previously, he ordered an oak tree of a tolerable size to be cut down, and converted into a beam, that was wanted for a building which he was then constructing. Having separated the head from the trunk, three men were engaged in squaring it to the proper size. About four inches were to be cut away on each side. The writer was present during the transaction. Great was his astonishment when he saw them throw down their tools, start back from the tree, fix their eyes on the same, and point with a kind of amazement and terror. He instantly approached and looked at the part of the tree which had fixed their attention. His surprise equaled their's on seeing a toad about the size of an egg incrusted in a manner in the tree at the distance of four inches from the diameter, and fifteen from the root. It was cut and mangled by the axe, but still moved. He drew it with difficulty from its abode, or rather prison, which it filled so completely that it seemed to have been compressed. He placed it on the grass; it appeared old, thin, languishing, decrepit. He afterward examined the tree with the greatest care to discover how it had glided in; but the tree was perfectly whole and sound.

These facts, but particularly the paper of M. Guettard, induced M. Herissan to make experiments calculated to ascertain their certainty. In February, 1771, he inclosed three live toads in as many cases of plaster, and shut them up in a dark box, which he also covered with a thick coating of plaster. In April, 1774, having removed the plaster, he opened the box and found the cases whole. On breaking the cases he discovered that two of the toads were alive, but the third had died a martyr to scientific investigation. The defunct toad was larger than the others, and had been more compressed in the case. A careful examination of this experiment convinced those who had witnessed it that the animals were so inclosed that they could have no possible communication with the external air, and must have existed during this lapse of time without the least nourishment. The Academy prevailed on M. Herissan to repeat the experiment. He inclosed again the two surviving toads, and placed the box in the hands of the secretary, that the Academy might open it whenever they should think proper. But this celebrated naturalist was too deeply interested in the subject to be satisfied with a single experiment; he made, therefore, the two following: First, in April of the same year, he placed two live toads in a basin of plaster, which he covered with a plate of glass, that he might observe them frequently. In the following month he presented this apparatus to the Academy. One of the toads was still living; the other had given up the ghost on the preceding night. Secondly, on the same date he inclosed another toad in a glass bottle which he buried in the sand, that it might have no communication with the external air. This animal, which he presented to the Academy at the same time as the other, was perfectly well, and even croaked whenever the bottle in which it was confined was shaken. It is to be lamented that the death of M. Herissan put a stop to these experiments, so interesting to savants, if not to toads.

The power which these animals appear to possess of sustaining abstinence for so long a time, may result from a very slow digestion, and perhaps from the singular nourishment which they derive from themselves. M. Grignon observes that this animal sheds its skin several times in the course of a year and that it always swallows it. He has known, he says, a large toad to shed its skin six times in one winter. In short, those which may be supposed, from the facts we have related, to have existed many years without nourishment, have been in total inaction in suspension of life, and in a temperature that has admitted of no dissolution; so that it was not necessary to supply any loss, the humidity of the surrounding matter preserving that of the animal, which needed only the component parts to be kept in a state of moisture to preserve it from destruction.

The toads are not the only animals which have the power of living for a considerable time without nourishment and a communication with the external air. The instances of the oysters and dactyles mentioned at the beginning of this article may be advanced in proof of it; and there are other examples.

Two living worms were found in Spain, in the middle of a block of marble which a sculptor was carving into a lion for the royal family. These worms occupied two small cavities, in which there was no inlet that could possibly admit the air. They subsisted probably on the marble, as they were of the same color. This fact was verified by Captain Ulloa, a famous Spaniard, who accompanied the French Academicians in their voyage to Peru for the purpose of ascertaining the figure of the earth. He asserts that he saw these worms. A beetle of the species called Capricorn was found in a piece of wood in the hold of a ship at Plymouth. We read in the *Affiches de Province*, June, 1772, that an adder was found alive in the center of a block of marble thirty feet in diameter. It was folded nine times round in a spiral line; it was incapable of supporting air, and died a few moments after. Upon examining the stone, not the smallest trace was to be found by which it could have glided in or received air.

Misson, in his *Travels through Italy*, mentions a crayfish that was found alive in the midst of a mass of marble in the environs of Tivoli. M. Peysonnel, king's physician at Guadaloupe, having ordered a pit to be dug at the back of his house, was told by the workmen that live frogs were found by them in beds of petrifaction. M. Peysonnel, suspecting some deceit, decended into the pit, dug the bed of rock and petrifaction, and drew out green frogs, which were alive and exactly similar to what we see every day.

If it is a difficult question to say how animals live in such a state of captivity, it is equally difficult to account for their getting into durance vile. Various theories have been advanced, but none of them so satisfactory but the savants have still to discover the mystery connected with those Prisoners of Nature.—*Albany Argus.*

Another Substitute for Wood Engraving. — Dingler's *Polytechnisches Journal* describes a new process called the "planotype." The design to be engraved is transferred to a block of lime-tree wood, which is then placed in a machine having somewhat the appearance of a carving machine, (the shape of which varies considerably according to the nature of the work) the graver being kept red hot by a gas-jet. By means of this appliance, the design is gradually burnt into the wood. Figures, or letters of reference, are impressed by means of punches. When the whole design has been burnt into the wood, a cast in type-metal is taken direct from the block; without any further preparation the cast may be used for printing from, like an ordinary stereotype plate. It is stated that the wood does not suffer in the slightest degree from the heat of the molten metal, and that even the finest details are faithfully reproduced. The process is carried out on a large scale, and is found to give most satisfactory results.

A Miniature Engine.—Mr. Buck, a Worcester jeweller, has made a miniature engine, which he claims is the smallest in the world. The *Spy* says: "It is made of gold and silver, and fastened together with screws, the largest of which is one-eightieth of an inch in size. The engine, boiler, governor, and pumps stand in a space seven sixteenths of an inch square, and are five-eighths of an inch high. Perhaps a better idea of its smallness will be conveyed, by saying that the whole affair may be covered with a common tailor's thimble. The engine alone weighs but fifteen grains, and yet, every part is complete, as may be seen by a microscopic examination; and it may be set in motion by filling the boiler with water and applying heat, being supplied with all valves, etc., to be found upon an ordinary upright engine. To attempt an estimate of its power would seem like rather small business, but for a guess, our opinion is that a span of well fed fleas would furnish more force if they were properly harnessed and shod. The little thing would tug away for several minutes if encouraged by a drop of water heated by the application of a burnt finger."

Scientific Use of the Mont Cenis Tunnel.—At a recent sitting of the French Academy of Sciences, M. Elie de Beaumont read an elaborate paper on the scientific instruction which may be derived from a close examination of the collection to be exhibited in the School of Mines, in Paris, of specimens of the strata obtained from the Mont Cenis Tunnel. This collection, which consisted originally of only 127 specimens, has received 69 new specimens, which brings the total number to 196. The total vertical thickness of the strata explored was more than 7,000 meters. The general color is gray, or, rather, black, and the coloring matter is mostly carbon. Very few fossils are met with, having been destroyed by the subsequent crystalization. The disturbances which have created Mont Cenis and made it emerge from the bottom of the sea have produced many cracks and faults. But all these faults have been filled up with quartz, in a perfect manner, in relatively modern times. The infiltration amounts practically to nothing. The only spring which was discovered, is situated near Modane, and gives only seven gallons per minute. The water is cold. The contractors were obliged to send to Modane and Bardonneche for the water required for drinking, and for grinding the stone. No artesian well has ever given an opportunity for comparison with the perforation of Mont Cenis, as the deepest well bored by European engineers is only 1,000 meters, and by the Chinese only 3,000. The Academy listened for more than an hour to the lecturer. M. Faye expressed a wish that a series of pendulum experiments should be conducted on the top of Mont Cenis, as well as in the central part of the tunnel, to test the effect of the mass of the mountain on the time of the oscillations.—*Ex.*

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, APRIL 6, 1872.

THE Common Council of the city of Hartford, have decided upon the arrangements in reference to the purchase of the Trinity College grounds. A committee has been appointed to negotiate the time and manner of payments, and to receive from the trustees of the college the deed of the grounds. The trustees are to receive $100,000 upon the delivery of the deed and the remaining $500,000 in bonds of the city of Hartford, these bonds to be of the denomination of $1,000 each and payable 25 years from Jan. 1st, 1872. Before the deed is given and accepted, however, the trustees are to give, in the words of the resolution, "a good and sufficient bond conditioned that the said trustees of Trinity College will procure a piece of land within the limits of the town of Hartford, and commence to erect college buildings thereon within five years from the date hereof."

A FEW weeks ago we wrote an article on "Expenses at Yale," endeavoring to give therein some idea of the amount necessary to carry a man through the four years of his college course at Yale. A single item from this article has been widely copied, and in a few cases commented on. This item as copied reads as follows:

"The statistics of the class of 1870, at Yale, show that the average expenditures of each member were about $1,066 a year. The statistics of 1871 show a corresponding average of about $1,002. One-fourth of the class spent between $500 and $900; one-fourth between $900 and $1,250; and one-fourth between $1,250 and $2,500."

Our object in bringing this matter to notice is to protest against any such mangling of results as this item gives. We have no objection to any paper choosing this, of all the items in the article, provided they do not by so doing give a false impression, for the figures as stated in the original article are correct. But there are two points worthy of notice. The first is that these figures, as stated in the original article, are student estimates of what they spent and were made, without any very definite calculations; for, as originally stated, very "few students keep any account of their actual expenses." But the item above cited, by failing to mention this fact, leaves the reader to suppose that they are authoritative. The second point, and the one still more worthy of attention, is that quite an essential part of the original item is suppressed. The item as given accounts for only *three* fourths of the class. The original item accounted for *all*. The suppressed portion reads as follows:

"About one-fourth of the class did not exceeed $500 per year in their expenses."

And, as it seems to us, this puts the matter of expenses at Yale in a much better light. Another item which might have been quoted with full as much pertinence is, "that the estimate more frequently made than any other was $500 a year." While we are on this subject we will say that the article referred to was an attempt at an honest statement of what a prudent young man must necessarily expend in order to study four years at Yale. And we believed then, and believe now, that the conclusions there reached are sound, viz.: "That any young man who has good health, perseverance, and the power of adapting himself to various kinds of work, need not, if he can by any means obtain $1,000 or $1,200 deny himself the benefits of a thorough course of study at Yale."

THERE are already several rumors afloat as to the place of holding the next summer's regetta. The Worcester *Spy* learns from what it regards an official source that it will not be Ingleside, nor Springfield, nor Providence, nor Fall River, nor Boston, but either New London or Worcester with a strong probability in favor of the latter place. We, however, do not understand, what that official source can be, for the matter is to be decided by the College Rowing Association, which does not meet until next Friday. And unless that meeting is to be run by certain persons, all speculations must be premature. It is said also that entries may be expected from at least six or seven colleges, and that crews may be counted on from Harvard, Yale, Brown, and the two Amherst Colleges. But this must also be regarded as premature for much will doubtless depend on the action of the Association. Meanwhile all will hear with regret of the misfortune which has befallen the Harvard crew, by a recent accident. Mr. W. C. Loring, the captain, fell upon the side walk a few days since and fractured his collar bone so seriously as to incapacitate him from rowing this summer. With regard to this untoward circumstance the Boston *Post* says:

"The loss which the crew sustains by this unlucky accident is keenly felt by the collegians, as Loring was by all odds the best boating man in the college, as well on account of his tact in training his men as of his superior physique. R. H. Dana, of the Sophomore class, will probably succeed Loring, he being considered next in point of training ability. This accident has had a very depressing effect upon the whole boating fraternity of the college and is regarded as a terrible blow. It is looked upon as the forerunner of the repetition of last year's misfortunes. But though disheartened the Harvard men will stand on their muscle against the fates which seem to be so decidedly against them, and if the magneta is not victorious again next summer it will not be because they do not try to do their best."

We will add in reference to the action of the Association at Worcester next week, that we hope its deliberations may be guided by a spirit of fairness and mutual concession and that it will decide on such a course that a straight away race may be rowed, or at least if a turning course is chosen, let it be one where every crew may turn around its own stake boat. A perfectly fair race is impossible under any other conditions.

PROFESSOR S. F. B. MORSE.

There have been few men whose names have been more widely known in their times than that of Prof. Morse, and he must be regarded as one particularly fortunate in linking his reputation with the history of an invention which has made an epoch in the world, and has given an impulse to the development of the arts and the furthering of commercial interests, hardly equaled by any other since the printing-press began its work.

Samuel Finley Breese Morse, the son of Rev. Jedediah Morse, D.D., was born April 27, 1791, in Charlestown, Mass. His father was a man of eminence in his calling, but like many other men, he achieved his reputation in a work outside his chosen field. He was well known during his life as a writer on geography, and will be long remembered as a pioneer in the work, and so, in a certain sense, the "father of American geography."

His son Samuel, entered Yale College, where he graduated in 1810. He subsequently decided to devote himself to the fine arts, and for several years resided in London, studying historical painting with West, who was then President of the Royal Academy. During a portion of this time he enjoyed also the instruction of Allston. He was intimate with Leslie, and for a time the two occupied the same room, and pursued their studies together. Through West's introduction they had access to the Elgin marbles which were then in the garden of Burlington House, and the model of the Dying Hercules, which gained for Morse the prize of a gold medal from the Adelphi Society of Arts, was probably the result of the studies upon these relics of Grecian art. It is a matter of congratulation that this model, which displays remarkable power, is now in the possession of Yale College, and is deposited in the Art building.

After returning to this country Mr. Morse established himself as a portrait painter in Charlestown, Mass., subsequently removing to New Haven, and finally to New York, where he was one of the founders of the National Academy of Design, and was its first President. In 1829 he went abroad again to continue his studies in art, and spent several years upon the continent. During this absence he was appointed Professor of the Literature of the Arts of Design in the University of the City of New York, and in 1832 he returned to this country to take the position offered him.

As an artist he had shown especial talent, and had already achieved a position among the best of American portrait painters. But like his father, he was destined to establish his claim to the remembrance of mankind in a very different sphere from that of his choice and tastes. His success as a painter entitles him to an honorable place in the history of American Art, but he has made an imperishable name as the inventor of the first practicable system of telegraphy, and the one which still holds its place as under all circumstances the most serviceable.

The first idea of the telegraphic transmitting and recording instruments occurred to Prof. Morse while on shipboard, on his return to this country in 1832. Experiments were made soon after landing, and in the Autumn of 1835 an instrument was exhibited by which telegraphic signals were recorded. The mode of its operation was substantially the same as that employed at present, but some time elapsed before the mechanical difficulties of the problem were satisfactorily met, and it was not until 1845 that the plan, afterwards generally used, of embossing a paper strip by means of a steel point was devised.

But the obstacles of the inventor were not merely in the labor and experiment needed to perfect the instrument itself. It was necessary to convince the public of the practicability of the plan, and this was found to be by no means an easy task. An exhibition had been made before a Congressional Committee in Washington in 1837, but no action was taken in reference to it. Failing to receive the desired encouragement at home, Prof. Morse went abroad, and exhibited his invention in England, and in Paris before the Academy of Sciences, but with no better success. Several years of fruitless effort passed, during which renewed appeals were made to Congress for an appropriation sufficient to build an experimental line between Washington and Baltimore. In 1843 Congress finally granted $30,000 for this purpose, but the debate upon the motion for it was conducted in a tone of ridicule by several members of the House, and is a humiliating piece of Legislative history. Mr. Cave Johnson especially distinguished himself by his opposition to the scheme, proposing an amendment to the effect that half the sum should go to a certain Lecturer on "Mesmerism," who was then in Washington, to enable him to make experiments in mesmerism in conjunction with Prof. Morse, and another member proposed to include "Millerism" also. They little thought that their short-sighted opposition to the comparatively obscure and poorly appreciated inventor would give them a very undesirable share in a world-wide celebrity, and perhaps be the chief means of preserving their names from oblivion.

The line from Washington to Baltimore was completed before the end of March of the next year, and though as a mere tentative effort it encountered unexpected obstacles and difficulties, its success was such as to put beyond all doubt the possibility, and what was more, the complete practicability of telegraphic communication between distant places. Companies were

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soon formed and lines rapidly extended to the chief cities in the United States, and a similar development of telegraphic industry followed in the countries of the old world.

The sudden appreciation by the public of the commercial value of the telegraph however, was the beginning of new troubles to the inventor. His rights as patentee were not only threatened by innumerable alleged improvements, but were actually infringed by unscruplous persons, and a vigorous crop of troublesome and expensive lawsuits sprung up, in which the contestants endeavored to maintain their ground by denying his priority in the invention, and accusing him of dishonestly appropriating the discoveries of other men. His scientific reputation was also assailed, both in this country and in England, where rival claims to the credit of the invention were set up and strenuously defended. In the end Prof. Morse was completely successful, and his claims were triumphantly vindicated.

The controversies in regard to the question of priority of invention arose partly from a misapprehension or want of apprehension of the true meaning of the word *telegraph*. The idea of communicating messages at a distance by the aid of electricity was not of modern origin. It appears in fact to have been thought of nearly one hundred years ago. Mr. Cooke, in England, had devised in 1836 and brought into practical operation in 1837, an instrument by which messages were transmitted by electricity, and were indicated by the movement of a light magnetic needle placed within a coil of wire, through which the current from the line circulated. Similar contrivances had been used on very short circuits, on the continent, by Baron Schilling as early as 1832, and by Gauss and Weber in 1833. These instruments, as improved, constituted the essential feature of the so-called needle telegraphs, which soon came into extensive use in England, and are still employed in a few lines there and on the continent. They have the disadvantage of leaving no record of the message, and the effort of watching the needle is found to be very trying to the eyes of the operator. As this apparatus makes no pernament record, it belongs properly to the class of *semaphores* or *signal* instruments. The essential feature of Prof. Morse's invention was the "possibility of producing an automatic record at a distance by means of electricity," and he was unquestionably the first to realize this idea, while the Morse apparatus was as clearly the first that properly deserves the name of *telegraph*. For general purposes of telegraphy it has nearly superseded all other contrivances. In a report to Congress on the Telegraphic Apparatus and Processes in Telegraphy exhibited at the Paris Exposition of 1867, made by Prof. Morse, who was the Commissioner appointed by the U. S. Government, there is a statement as to the number of Morse instruments in use in the various European countries. At that time (1867), one company alone in England used 7,245 of them, the whole number used in Europe being estimated at not much less than 12,000; and it was supposed that at least double that number were used in America.

If Prof. Morse was fortunate beyond most inventors in securing the rights which belonged to him, as well as in receiving a pecuniary reward worthy of the energy he displayed, and of the courageous and persistent efforts of those many years of struggle with difficulties well nigh innumerable, he was still more so in the full recognition of his claims by scientific men, both at home and abroad, and in the distinguished honors bestowed upon him by nearly all the civilized countries of the globe. It would require too much space to enumerate the many decorations bestowed upon him by the monarchs of Europe, the memberships in learned societies, to be admitted to which is a distinction coveted by many and obtained by few, the banquets given in his honor, or to quote the many flattering testimonials to the benefits his invention has brought to the world. Without these he would have been an honor to his country, and one to whom his *alma mater* might refer with just pride.

During the later years of his life Prof. Morse had lived in comparative quiet, but he had not ceased to take a lively interest in all matters relating to the progress of art in this country. Soon after the foundation of the Art School in Yale College, he presented to it a very valuable picture by his former instructor Washington Allston, which now hangs in the gallery of the school.

A few days since he was prostrated by an attack of paralysis, from which he did not rally, but sunk gradually until, on the evening of Tuesday, April 2nd, his life of usefulness and honor came to a close, and he passed to his rest.

"MUTILATION OF HYMNS."

Editor of The College Courant: If my memory does not greatly deceive me, your correspondent E. D. S., in the issue of the COLLEGE COURANT of March 30, confounds the original form of Toplady's famous hymn "Rock of Ages" with a revision of it by the poet Montgomery. The form which he quotes as the original of the second verse, is a portion of the second and third verses, as written by Toplady. I have not Toplady's works with me, but I have strongly the impression that it was the "riven side," and not the "wounded side" of which Toplady sung. Certainly your correspondent has forgotten that it is under the figure of a "rock" that Christ is addressed; a "rock" like that from which water flowed at the word of Moses, and the word "riven" is more appropriate than "wounded." I do not by any means object on principle, as your correspondent does, to alterations of hymns. How would he like to sing one line of this hymn as it reads in the original form, before its "beautiful expressions" were "tampered with:"

"When my *eye strings* break in death?"

W. H. W.

New York, March 28, 1872.

LITERARY.

The Magazines, Etc.—The *Atlantic* for April opens with a poem by Longfellow, "The Ballad of Carmilhan;" and we find besides of poetry, "The Brook's Message," by Kate Hillard, "The Burning of Soma," by Whittier, and "The Idyl of Battle Hollow," by Bret Harte. Of the continued pieces, James DeMille carries "The Comedy of Terrors" through the ninth chapter; the "Diversions of the Echo Club," recounts the experiences of night, the fourth; "Septimius Felton" fills ten pages, and "The Poet at the Breakfast Table," gives an unusually long but interesting conversation. Parton treats of "Jefferson in the House of Burgesses of Virginia," Edward Jarvis attacks the "Immigration" problem, and H. James Jr., reviews "Taine's English Literature." Some one who witholds his name gives a long account of "John Brown in Massachusetts" and T. B. Aldrich contributes a story of the war under the title "Quite So." The departments of Art, Music, Politics and Science, are well filled. The latter has a notice of Huxley's recent work, The Anatomy of Vertebrated Animals.

The April *Galaxy*, has as its opening piece a sketch of "Charles Reade" by Justin McCarthy. The novelist is summed up as follows: "Mr. Reade is unsurpassed in the second class of English novelists, but he does not belong to the first rank. His success has been great in its way, but it is for an age and not for time." Mr. Albert Rhodes analyzes French Character in a paper entitled, "The French at Home;" Miss Nelly Hutchinson treats of "Woman and Journalism" and finds that the chief success of women as journalists is as special correspondents; and Hon. Gideon Welles deals with "Lincoln's and Johnson's" plans of reconstruction. In "The Nether Side of New York," Mr. Edward Crapsey brings out to light the Lottery Gamblers. "Fifteen Years a Shakeress" is brought to a close; the "Eustace Diamonds" is continued, as is also "My Life on the Plains" by Gen. Custer. J. W. DeForest contributes an amusing paper, called, "An Independant Ku Klux." There are also several stories and the usual departments, of Science Literature, etc.

As usual *Harper's* is profusely illustrated, ten out of the sixteen articles the April number contains being thus assisted in their attempt to convey ideas. Mr. Conway's second paper on Munich, opens the number and is interesting reading. The second paper on "Naval Architecture" by Allan D. Brown, brings the subject down to the present and to a completion. A series of illustrated sketches of Southern Life by Porte Crayon is begun in this number. They are given under the name of "The Mountains." There is also a first paper on the Tammany Society, which tells how it was made a political power. It will be concluded in the May number. Under the head of "The Social Palace at Guise" Mr. Edward Howland gives a very minute account of M. Godin's Familistère, which is claimed to be the most successful attempt yet made to effect a union of the interests of labor and capital. There are also an article on "William Wilberforce" based on some recently published memoirs, and an abstract of some of the principles of Mr. H. R. Haweis's, new book, Music and Morals. Several stories furnish amusement and instruction for those who delight in that manner of receiving both. The poetry of the number is by Carl Spencer, Mrs. Ketchum, and Mrs. Z. B. Buddington. The latter describes touchingly the death of a little boy in one of the Pittston mines. The editorial departments are well filled.

The full page illustrations of Mr. Edward Whymper's "Scrambles among the Alps" in the April *Lippincott* are especially fine, and the subject matter is as brilliant and interesting as the chapters that have preceded. The remaining continued articles are "At Home with the Patigonians," which reaches part II, and a conclusion; "The Strange Adventures of a Phaeton" which progresses through three chapters; and "Aytoun" which has likewise three chapters. Mr. Horatio King, Postmaster General, under Buchanan, furnishes a paper entitled, "Reminiscenses of Early Stages of the Rebellion," and E. S. gives a first paper on the "Private Art Collections of Philadelphia." "Fair Margaret" by the author of "Dorothy Fox," is a genial story, and "Elle and Lui" by Kate Hillard is a sketch of the unfortunate friendship of Alfred de Musset and George Sand. Prentice Mulford contributes a few sketches of life and scenes on the ocean under the head of "Bits of Steamer Life." There are also several poems and the usual Monthly Gossip and Reviews.

For variety and interest in the articles given *Scribner's* for April truly bears off the palm. The number of the articles is so great that in a short notice it is almost impossible to even mention them all, we must therefore be content to pick out some of the more important. The leading article which is well illustrated, is a description of the United States Navy Yard at Mare Island, Cal. James Richardson treats of the "Curiosities of Plant Life," and Schele De Vere of "Hidden Treasures," in which the peculiarities of mines, oil wells, etc., are depicted. "The Silent College at Washington," a description of the National Deaf Mute College, will attract attention from those interested in deaf mute education. It is written by Amos G. Draper an inmate of the institution. Mrs. Raffensperger tells a story of a Mormon wife quite at length under the title "With the False Prophet." "A Russian Easter" is described in full by Eugene Schuyler. The Back-Log Study by Charles Dudley Warner, which is becoming a feature of *Scribner's* and is expected and looked for each month is as charming and interesting as usual. A paper which will attract notice is one by Mr. Fitzedward Hall, of Oxford University, England, who discusses whether we shall say "Is Being Built?" He reviews to some extent Mr. Richard Grant White's "Words and their Uses," differs from him, and answers, yes, to the question at the head of the article. Dr. Tayler Lewis contributes a paper on

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"The One Human Race," contending that there were no human beings before Adam. There are also several stories and the editorial departments, show some vigorous writings.

The serials of *Old and New* are continued through three or four chapters apiece. Mr. John Burrough's discourses about early spring in "A March Chronicle," and Dr. Bellows examines at length, "The Break between Modern Thought and Ancient Faith and Worship." "Silver Islet Mine" is a statement of the mineral wealth of the mine of that name in the Lake Superior region. Mr. Hale's statements in reference to the Japanese are worthy of attention.

The *Lakeside Monthly* opens with chapters VI, VII, and VIII of "Twenty Years Ago" by D. H. Wheeler. J. F. Meagher discusses "A Railroad above the Clouds." Amelia Shackelford gives "Doctor Dolbie's Experiment," and G. E. Patten tells "The Story of the British Privateers." "The Next Transit of Venus" is a clear statement of the subject of the sun's distance, and what is expected to be accomplished at the coming transit of Venus. It is illustrated with a diagram. In "Five Months After," Mr. Everett Chamberlain tells what has been done in Chicago since the great fire. The most elaborate article in the number and one which will doubtless attract attention among those interested in the subject, is "Darwinism and Chistianity" by Rev. E. O. Haven.

The *Overland* for April has "Sea Studies," a fine example of world painting; "A Ride through Oregon" by Joaquin Miller; "Three Days of Sanctuary;" "Juanita" an Arizona sketch; "Sam Rice's Romance," a picture of life in the early days of California, and "In the Shadow of St. Helena" by W. C. Bartlett. There are also articles descriptive of the far West. "The Northern California Indians" is the first of a series by Stephen Powers. "The Wants and Advantages of California" is a practical article, giving facts and figures. We find also "Yosemite Valley in Flood," and "Abigal Ray's Vision," with two or three pieces of poetry and the usual "Etc." and reviews.

The *Eclectic* for April has a fine engraving of Hon. Charles Sumner, which is the forerunner of a series of the more eminent men in American public life. The contents are varied and interesting. The leading article is an essay on "The Later English Poets," including Swinburne, Rossetti, and Morris. We notice also "Wanderings in Japan;" "Brougham and some of his Contemporaries" from *Temple Bar;* "Dickens in Relation to Criticism," by G. H. Lewes, from *Fortnightly Review;* "Notes on East Greenland," by A. Pansch, M.D., from *Frazer's Magazine;* "A Conversation," by Arthur Helps, from *Macmillan's Magazine;* etc., etc. Prof. Owen, in *Blackwood's*, has an article on "Serpent Charming in Cairo;" and George Sand in *London Society* has a second paper on "French Novelists." "The Strange Adventures of a Phaeton," by William Black, is continued, and the editorial departments are well sustained.

Van Nostrand's *Eclectic Engineering Magazine* presents a variety of interesting selections from home and foreign engineering periodicals. It opens with an illustrated article on "The Solar Atmosphere," and has another illustrated article on "Water Meters," and one on "The Strength of Long Struts." There are also interesting articles on "The Strength of Materials," "Private Gas Manufacture;" "Recent Progress in Mechanical Engineering;" "Manufacture of Gunpowder during the Siege of Paris;" "The Navy of the Future;" "The Manufacture of Steel Rails;" "Explosive Compounds," etc.

In *Good Words* for March, reprinted in this country by Lippincott, the serials are continued and John Monsell, LL.D., contributes an interesting sketch of "The Phantom Isles;" Rev. Charles Kingsley has a third paper on "Town Geology;" Augustus J. C. Hare, tells of "Wanderings in Spain, and Miss C. F. Gordon-Cumming describes "The Serpent Shaped Mound of Loch Nell." There are also other articles of interest.

J. Sabin & Son's American *Bibliopolist* for March contains the usual Correspondence, Notes, Book Notices, etc., and a catalogue of cheap and valuable books for sale. We notice in the latter a number of volumes of the Oxford Classics, 18mo., at fifty cents each.

The Journal of *Speculative Philosophy* for January has an article on "The Metaphysical Calculus;" "Lotze on the Ideal and Real;" "The Trinity and the Double Procession;" "Fichte's Facts of Consciousness;" "Rosenkranz on Hegel's Phenomenology;" "Trendelenburg on Hegel's System;" and "Book Notices," Among the latter is a review of Ueberweg's History of Philosophy which has recently been translated in this country.

The April number of the *Radical* has a parts VII and VIII of "Timothy Tot: a Prose Story with Poetic Passages" by F. G. Fairfield, of *The Home Journal.* There are also among others a paper by O. B. Frothingham on "The Religion of Humanity—Its God—Its Bible;" and "A Study of Voltaire," by John W. Chadwick.

The monthly part of *Appleton's Journal* contains the five weekly numbers for March, and presents an amount and variety of reading and illustration that few of the regular Monthlys can boast of.

Wood's *Household Magazine* for April has articles by Horace Greely, J. T. Headley, Eleanor Kirk, James Parton, who treats of the wife of Jonathan Edwards, Thos. K. Beecher, Dio Lewis and others.

The April number of the *Folio* appears in new type and has a fine lithograph portrait of P. S. Gilmore, the founder of the Jubilee. There are also besides reading matter in variety there selections of music, "Far from Home;" "Lina Polka-Mazurka;" and "I will Give Thanks unto Thee, O God."

Youth's Speaker.*—This book contains 19 exercises in prose, 81 in poetry, and 17 dialogues for the use of the children in our public schools. It is easier to look for good sensible pieces for small pupils than to find them, especially in verse, and this is the reason we presume why the selections in poetry, some of which are recommended by nothing but morality, are the least interesting part of the work, which, considering this difficulty, is no failure. The exercises in prose are uniformly good, especially the dialogues which are just the thing for little folks at school or by the winter fireside.

* *Cathcart's Youth's Speaker.* Selections in Prose, Poetry and Dialogues for Declamation and Recitation, by George R. Cathcart, A.M. New York and Chicago. Ivison, Blakeman, Taylor & Co., 1872.

German Reading Book.*—This book is a collection of German and English exercises for translation; among the latter are selections from Hawthorne, Irving, Dickens, and Jean Ingelow.

The arrangement of the vocabularies; where word follows word in the same order as in the reading lesson, is well calculated to save the time of the scholar and they would be perfect, if the author had only, by connecting the English derivatives with the German primitives, brought association to the aid of memory in that most difficult task of acquiring the words of a foreign language.

* *Book for Instruction in the English Language.* By Hermann D. Wrage, A.M., Teacher of the German language in the public Schools of New York.; Published by D. Appleton & Co., 549 and 551 Broadway, New York, 1872.

Reading Without Tears.*—All who are interested in children will be especially pleased with this little book. Beginning with the alphabet, the child is first taught the names of the letters by association. Short words having similar sounds, are then given, which are afterward combined into short sentences and stories. "Three means are used in this book to facilitate the child's progress. Pictures, classification, and the omission of irregular words." By these means the child is gradually and pleasantly led through the hardships usually attendant upon learning to read. The book abounds with illustrations which are at once pleasing and helpful.

* *Reading Without Tears.* Or, a pleasant mode of Learning to Read. By the Author of "Peep of Day," etc. In two parts 16mo. pp. xvi, 292. New York: Harper & Brothers. 1872.

Ballads of Good Deeds.*—We have in this volume a collection of short poems, which have appeared, from time to time, in the leading magazines of this country, Appleton's Journal, Harper's Weekly, The Galaxy, Lippincott's Magazine, Overland Monthly, Every Saturday, Old and New, and Harper's Magazine. One of them, the "Recompense," is reprinted from Chamber's Journal. They are thirty in number, and in their present form are dedicated, or, rather, "whatever of good may be in these pages," to George William Curtis. They are preceeded by the following quotation from Montaigne: "The instances I produce, how fabulous soever, provided they are possible, serve as well as the truth; whether it has really happened or no, at Rome or at Paris, 'tis still within the verge of possibility, and human capacity, which serves me to good use, and supplies me with variety in the things I write."

As a motto for this book, this quotation is, as it is designed to be, strikingly appropriate. The contents are mainly instances of fabulous character, but within the range of human possibility, and so, serve the purpose of the author. There is not much variety in the measure Over twenty of the poems are written in a six-line stanza—a quatrain and a couplet—not particularly adapted to metrical narrative. The versification is not smooth and easy as we like to have it in the ballad, and as we find it in the similar writings of Hoffman, Holmes and Halleck. At the same time, they are pleasant poems, narratives of good deeds, each of which is crowned with a moral. The style of the book and binding is neat and handsome.

* *Ballads of Good Deeds and other Verses.* By Henry Abbey, New York: D. Appleton & Company, 549 and 551 Broadway, 1872.

The Abominations of Modern Society.*—Mr. Talmadge is the most popular preacher — Henry Ward Beecher excepted—now occupying a metropolitan pulpit Whether it be native talent, gift of genius, cultivated oratory, or eccentricity, or all these combined, he has a power that both draws and holds the people to his ministry. A church of a thousand members aggregated around a feeble mission,—a Mammoth Tabernacle,—constructed on an entirely new plan and paid for by voluntary contribution, an extensive religious College or Training School successfully inaugurated, and a permanent congregation of between three or four thousand hearers collected, in a ministry of less than half a score of years, are wonderful demonstrations of personal influence.

He is bold in his utterances, loving to grapple with giant vices and uncover the illy-concealed iniquities of society. He has an undobting faith in the Scriptures, and he looks for no hidden or spiritual meaning when the literal one will best serve his purpose. There is much of the Boanerges and little of the Barnabas in him. His sermons bristle all over with sharp points. They exhibit careful preparation—extensive study and familiarity with history, rather than remarkable genius or comprehensive thought. Unfortunately, they bear the evidence of being prepared not for hearers alone—but also for readers. Here is an obstacle in the way of the best efforts in the pulpit. As addresses, the most effective in delivery, do not appear to be the best when in print, so a sermon, prepared for the type of Monday morning, or for fifty thousand readers of a newspaper in the following week, will be wanting in some of the elements of the

* *The Abominations of Modern Society.* By Rev. T. DeWit Talmadge. Author of "Crumbs Swept Up." New York. Adams, Victor & Co., 98 Williams street.

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most effective style of preaching. Mr. Talmadge's hearers must often wish the reporters out of the way, and the speaker free from all thoughts of appearing in black and white before the reading world of the next day.

A description of Mr. Talmadge's style of preaching would furnish the best idea of the books he has written for what he is in the pulpit he is in print. The present volume and the one that preceeded it,—Crumbs swept Up—are made up largely of materials taken from his sermons. Prominent among the abominations of Modern Society which he depicts in all their ghastliness, are the "dissipations of fashion"—"the starvation-prices of women's work"—"the immoralities of stock-gambling"—"the leprosy of flashy-literature"—"the hells of drunkenness and houses of infamy." The propriety of unearthing to country sunlight some of these horrors that breed and fatten in the round of city life may be questioned. The language, in which these abominations are described is not the most chaste that might be chosen, yet it is at once forcible and picture-like. The style is open to criticism. Some expressions border on the vulgar, others on the profane, yet there is such a truth-telling honesty running through all the book, we readily overlook these minor defects. For its forceful utterances, its truthful revealings of some of the commonly practiced vices of city life, its sharp rebukings of sins too often countenanced by the customs of society, its timely warnings of lurking temptations, the book is to be highly commended.

COLLEGE RECORD.

Dartmouth College, (Hanover, N. H.)—At a meeting of the Senior class, Saturday, March 30th, the Class-Day appointments were made as follows: Marshall, A. V. Barker, Ebensburg, Pa.; Orator, F. H. Gould, Bradford, N. H.; Poet, C. R. Miller, Hanover, N. H.; Chronicler, W. H. Cotton, Northwood, N. H.; Prophet, C. H. Clement, Thetford, Vt.; Address to the President, C. W. Sanborn, Wakefield, N. H.; Address at the Old Pine, J. B. Mills, North Dunbarton, N. H.; Ode, F. H. Carleton, Newport, N. H.; Address to the class, Everett Lotman, Fairfield, Me.; Introductory Address, A. G. Somers, West Barnet, Vt. The election was much fairer and more satisfactory than previous class-day elections have been, all secret societies being represented and by able men. Grafulla's Band, of New York city, has been engaged to furnish the music for commencement week, with Miss Antoinette Sterling as vocalist. Rev. Edward E. Hale will deliver the address before the Literary Societies, and the poem will be by Walt Whitman. In his letter of acceptance the latter gentleman states that he never attended a college commencement.

Bellevue Hospital Medical College, (New York city.)—We learn from the *Medical Record* that the following changes have recently been made in the faculty of this institution. Prof. Stephen Smith has resigned the chair of Descriptive and Comparative Anatomy, and Clinical Surgery. Prof. B. W. McCready has resigned the chair of Materia Medica and Therapeutics and Clinical Medicine, and has been appointed Emeritus Professor of Materia Medica and Therapeutics and Professor of Clinical Medicine. Prof. A. B. Crosby has been appointed Professor of General Descriptive, and Surgical Anatomy. Prof. W. A. Hammond has been appointed Professor of Materia Medica and Therapeutics, Diseases of the Mind and Nervous System, and Clinical Medicine. Prof. Hammond will continue his lectures and clinics on Diseases of the Mind and Nervous System as heretofore, lecturing also on Materia Medica and Therapeutics. Dr. E. G. Janeway has been appointed Professor of Pathological and Practical Anatomy. As Professor of Pathological Anatomy, he will deliver in the regular session a course of lectures on that subject. As Professor of Practical Anatomy, he will perform the duties of Demonstrator of Anatomy. Dr. E. L. Keyes, formerly Lecturer on Dermatology, has been appointed Professor of Dermatology. Prof. A. B. Mott has been transferred from the chair of Surgical Anatomy, with Operative and Clinical Surgery, to the chair of Clinical and Operative Surgery. Prof. Mott will relinquish his didactic lectures on Surgical Anatomy to the Professor of Anatomy, and will hold a Surgical Clinic at the college throughout the year.

Monmouth College, (Monmouth, Ill.)—A correspondent of the *Golden Age*, who signs himself E. J. C. and writes from Keokuk, Iowa, speaks as follows concerning co-education in this institution: "Ladies and gentlemen are not only admitted on the same footing, but are treated accordingly while there, and the result is all that the most exacting could desire. There is no ladies' course and gentlemen's course, as is frequently the case in so-called co-education colleges, but there is a students' course open to both alike, and pursued with success by all, and with an entire freedom from any spirit of strife or jealously between the sexes. Moreover, experience has discovered no difference in the comparative mental abilities of the lady and gentleman students. This institution has shown superior wisdom in its government over other schools of a similar character, which have adopted the system of co-education, but have immediately adopted a long list of rules to govern the sexes in their conduct toward each other, thus tacitly admitting that they do not consider they can be trusted together as ladies and gentlemen. The President of Monmouth College has wisely refrained from such a course. The principle acted upon in that college is, that the students are ladies and gentlemen, and none the less so because *students*, and that common sense and politeness will dictate rules to guide them in college, quite as surely as in society; and they do. The result is that every year this institution is sending out men and women that are not only Christians, but woman suffrage advocates; for it is a remarkable fact that Monmouth students generally favor the woman cause. And consequently the most orthodox of conservative churches will, in a few years, have in its pulpits a ministry that will couple equal rights with religion."

Baldwin College, (Berea, O.)—The Institution is enjoying, this year, a state of prosperity truly gratifying to its friends. Some improvements have been made in the shape of broad stone walks, a new fence enclosing the college campus, and a general renovation of South Hall now occupied exclusively by ladies. The erection of a large college edifice on the site of the old Chapel is in contemplation.

The increase in the number of students over that of last year, is about one hundred.

The revised course of study present some valuable features, among which are the following: The studies of the Junior and Senior years are elective, each student being allowed his choice of any three of the six or seven laid down in the course.

One year is devoted to each of the following branches: Geometry, (Chauvenet), Analytic Geometry, (Howison), Calculus, (Church), and Mathematical Astronomy, (Loomis). Two terms are devoted to the study of Mental Philosophy, (Porter), the class also attending weekly lectures on the History of Philosophy through the second term. By thus giving ample time to these important branches, thoroughness of scholarship is secured.

The Junior exhibition at the close of the winter term, which occupied two evenings, was in all respects, a decided success. The discussion of the question "Was the purchase of Alaska a profitable investment?" was ably conducted by Robert Avaun, Aff. and Clara Schuyler, Neg. In this institution young ladies stand on an equal footing with their brothers, and in the successful pursuit of their studies show themselves equally worthy of the privileges enjoyed.

The commencement exercises of the College of Pharmacy were held on the evening of March 13th. The occasion was one of interest. Of the six graduates one was a lady, Miss R. Seymour, who is also a member of the present Senior class.

The department of Music, under the superintendance of Professor F. M. Davis, is in a flourishing condition.

J. W. White, Prof. of Greek, who has been in Europe since last July, is expected back in June.

Iowa College, (Grinnell, Iowa.)—A meeting of the Trustees of this institution has recently been held and definite action taken in reference to erecting a building in place of East College which was burned some time since. The plan includes besides better museum, laboratory, chemical lecture room, principal's, lady principal's, professor of Civil Engineering's and tutor's recitation rooms, a Mathematical and Senior recitation room, Greek, Latin, and Rhetorical recitation rooms, two college society rooms, philosophical and chemical apparatus rooms, arsenal, cloak rooms, library, and a large room for the models coming from the Patent Office, works of art, etc., etc. The building committee, are instructed to proceed with all possible dispatch. There is no reason to anticipate any delay, save what the season and the weather necessarily occasion. The insurance and donation funds appropriated to this object are to be used as far as they will go, and it is expected that they will be sufficient to put up the walls, with the floor timbers that are set in the walls, and to enclose the roof.

Details of the plan are still to be determined by a competent architect, and the choice of material—stone or brick—by the bids made. It was rendered very probable that stone would be furnished as cheap as brick, and in that case the committee is instructed to build of stone. The location fixed upon, after the longest, most careful, and patient deliberation, was 125 feet northeast of West College—which will bring the new edifice in the center line running through the grounds north and south, but will place it a little back of East and West Colleges.

The Trustees directed that a plank walk be laid between West and East Colleges, in such a way as not to interfere with building operations upon the new edifice, and that the walks in the south front be cut in the sod, and covered with hard material when the spring opens, thus providing for the crossing of that part of the grounds in every direction, and for progress in their ornamentation. Also, that a grove of trees be planted along the East side near the Central Railroad, to cut off noise and other annoyance from trains.

At the same meeting of the Trustees a normal course of one year's studies was adopted, and an appropriate resolve was also passed in memory of Rev. Dr. Guernsey, a Trustee, and Hon. James W. Grimes, and Dea. J. P. Williston, of Mass., benefactors of the college, lately deceased.

Michigan University, (Ann Arbor, Michigan.)—The graduating exercises of the class of 1872 of the University Medical Department took place on the morning of March 27th, in the M. E. Church at 10:30 o'clock. The order of exercises was as follows:—Music; Prayer by the Rev. Dr. Haskell, of Ann Arbor; Music; Conferring of degrees; Music; An address to the Graduates by Alpheus B. Crosby, M.D., of Brooklyn, N. Y.; Music; Benediction.

The number of M.D.'s ushered into the practicing world was 82. The appearance of the ladies, six in number, of the class was greeted with rounds of applause, and the fair graduates were each the recipient of beautiful bouquets.

The Commencement exercises of the Law Department took place the same afternoon, commencing at 2 o'clock. There were 114 graduates. After the ceremony of conferring the degrees had passed President Angell delivered the address to the graduating class. It was a most forcible and brilliant one, replete with ripe and earnest thought, delivered in the clear vigorous manner of the speaker. The address was well received and was greeted with frequent applause.

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In the evening the Alumni Association of the Law Department met at Cook's Hotel. The orator appointed at the organizing meeting a year ago was not present, so the association was not favored with the expected intellectual treat. The meeting was called to order by the President, Mr. Marston, about 9 o'clock, and immediately proceeded to the election of officers for the coming year, which resulted as follows:

President—J. H. McGowan; *Vice-Presidents*—B. D. Ball, Seth C. Moffatt; *Secretary*—H. A. Chaney, Detroit; *Treasurer*—Judge Thos. M. Cooley; *Orator*—Gen. Cutcheon; *Alternate*—E. M. Irish; *Executive Committee*—C. B. Grant, C. B. Caldwell, J. D. Ronan.

The members of the association then partook of a bountiful repast, after which the following toasts were given:

"The President of our University—The Green Mountain sent him out to conquer and he has won our affections." Responded to by President Angell.

"The Law Department—Few have been its days but they have been full of work and clatter." Response by Judge Campbell.

"The Member from Bay—May he flourish like a green bay tree." Response by the President of the Association, Mr. Marston.

"The Michigan Legislature—Who set the ball a going." Response by Senator Ball.

"The Class of '72—They have exhibited dilligence and earnest application while here; may industry, energy and perseverance insure them success hereafter." Response by J. W. Caldwell.

"The Regents of the University—It is a great charge they have in hand; may they discharge it well." Response by Regent Grant.

"The Independent State of Monroe." Response by Mr. Ronan.

The Junior Exhibition, which was to have occurred Tuesday evening, March 26th, was abandoned on account of the resignation of all those appointed to speak. The causes were something like these: The faculty as usual selected the speakers ostensibly according to scholarship; but the class was almost unanimously opposed to the choice of the faculty, affirming that the ability of the class was not fairly represented. They went so far as to vote not to furnish any music for the occasion, which was, in effect, to disown the exhibition entirely. The candidates being thus placed in a very embarrassing situation felt called upon to send in their resignations which were duly accepted. Whether this is to be considered the death of Junior Exhibition here, or merely an epileptic shock, is a matter which time only can decide. R. F. N.

Yale College, (New Haven, Conn.)—The news of the week at Yale presents some variety and interest. The term draws to its close, and all classes are now in the midst of examinations. The nominations for the Alumni members of the corporation come in slowly, and meanwhile the following ticket which explains itself is presented.

ALUMNI-MEMBERS OF THE CORPORATION.

The following list of suitable persons to be voted for by the alumni of Yale College at the next Commencement, was prepared by a New York lawyer, at the suggestion of a resident of New Haven. The object was to name persons outside of Connecticut, who would both honor the office and perform its duties. Those, therefore, are omitted who are either absent from the country or so remote as to be entirely unreliable in their attendance at the meetings of the corporation. For convenience, the names are arranged according to their classes:

1827, Rev. William Adams, D.D., New York.
1833, Hon. Alphonso Taft, Cincinnati.
1842, Edward C. Walker, Esq., Detroit.
1848, Hon. Dwight Foster, Boston.
1849, Rev. Franklin W. Fisk, D.D., Chicago.
1854, George DeF. Lord, Esq., New York.

THE WOOLSEY FUND.

At a meeting of the representatives of the Woolsey Fund in New York, held on March 27, it was ascertained that one-fifth of the whole fund proposed to be raised—or in other words, a sum of more than $100,000—has already been secured. The subscription has been in progress but about six months, and has been delayed by the Chicago fire. From many of the classes no reports have yet been received, so that the amount pledged is doubtless more than is here stated. The class of 1860 is now the banner class, having already secured $20,000. The class of 1858 is almost as promising, having begun with $13,000 from ten men. The class of 1867 has secured about $10,000; that of 1866 nearly $7,000. So it goes. The younger classes are all doing their part; if the older show like determination and interest, the entire Fund is secure.

THE ART SCHOOL.

There is to be a free exhibition of the drawings of the students of the Art School, exhibiting the work of the past five months, in the south gallery of the Art Building, on Friday, Saturday and Monday evenings, April 5th, 6th, and 8th. On Saturday evening Professor Niemeyer will deliver a lecture on the present condition of the school, its work, and the relation of art education to scientific pursuits. This is the first exhibition of the work of the school, and should therefore receive attention. The interests of the school are now in efficient hands, and it seems to be entering upon a course of prosperity and usefulness.

A change of some importance and interest to the students at least, has taken place in the Sunday services. The afternoon service is now to be optional, that is, no regular service will be held in the chapel, afternoons, but a service in the Marquand chapel which all who desire may attend. The announcement gives great satisfaction to the students. Hereafter the two half Sundays at other than the stated places of worship will not be granted.

The Junior prize speaking in the form adopted last year, was held at the chapel on Tuesday last. The following is the list of speakers and subjects: "The Iconoclastic Spirit of the Present Age;" W. Beebe, Warsaw, N. Y.; H. M. Denslow, New Canaan; H. W. Lathe, Worcester, Mass.; F. B. Tarbell, West Groton, Mass. "The Statesmanship of Cardinal Richelieu;" E. S. Cowles, Farmington; W. A. Houghton, Holliston, Mass.; H. W. Lyman, Northampton, Mass.; S. O. Prentice, North Stonington. "The International Society;" R. W. Daniels, Lockport, N. Y.; E. S. Miller, Williston, Vt. The audience was hardly as large as last year. "The Glee Club" sang "The Switzer Boy" and "The Spring again rejoiceth to Break the monotony." After long consideration, first prizes were awarded to Messrs. Houghton and Tarbell, and several of the others speakers were highly commended.

The time for the writing of Sophomore compositions has been extended beyond the usual limit, and they will not be handed in until the beginning of next term. The subjects upon which the class are writing are as follows: Mazzini and Cavour; Myth of King Arthur; Emperor Trajan; Mythology of Christian Art; Southern Life Before the War; Charlotte Bronte's Novels; France as a Civilizer; Salem Witchcraft.

The annual initation of the members of *X. Δ. Θ.* took place at the New Haven House on Wednesday evening, March 27th. The programmes were neatly gotten up representing on the front side the well known figure of Gov. Yale, and upon the back the text, "Resist the Devil and he will flee from you." One member of the old board was absent on account of ill heath, but his place was supplied by one of the class deacons. '72 publishes one more *Lit.*, and then the work devolves upon their successors.

A writer in the Yale *Courant* calls for instruction in both the present and past political history of the county. The call seems to have pertinence in it. The Yale *Courant* also commends to the consideration of '72 the plan of having a class dinner on presentation day.

A cup presented by Mr. White, the popular owner of boats to let, is to be rowed for, at three o'clock to-day, by single sculls in all departments of College, provided there are enough entries to make the race an interesting one and the weather is suitable.

It is said that the next building erected on the College grounds will be the Peabody Museum. It is to be situated on the corner of College and Chapel streets, and will extend from near the Art gallery to College street. Mr. Peabody gave for this purpose some five years ago $150,000 in three parts of $100,000, $30,000 and $20,000, which are to be expended respectively in the erection fiting up and supply of the building. Profs. Dana, Brush, and Marsh are trustees of the fund and work will be begun as soon as it accumulates sufficiently. Professor Dana told the class of '71, that he hoped to be able to show them the new building when they came back to triennial.

The subject for Towsend Compositions in the Senior class have been given out. Articles are to be handed in May 31st, and the speaking takes place June 28th. The subjects are: 1. Gibbon's "Secondary Causes for the Rapid Growth of the Christian Church," 2. The Use and Abuse of Forms in Religious Worship; 3. Progress of English Poetry in the Treatment of External Nature; 4. Sir Walter Raleigh; 5. The True Doctrine of States' Rights under our Amended Constitution; 6. The World's Obligations to Plato.

YALE PERSONALS.

'11, NICHOLS.—Died in Brooklyn, N. Y., Mrs. Susan Nexsen, wife of Rev. Samuel Nichols, aged 74. She was mother of Rev. George W. Nichols (Yale, 35), and Effingham H. Nichols, Esq. (Yale, 41.)

'14, DICKSON.—Dr. Samuel H. Dickson, of Philadelphia, died at his residence in that city Sunday afternoon March 31st. He was born in Charleston, S. C., in 1798, and received his primary education there. After graduation he began his medical studies at the University of Pennsylvania, from which he received his diploma as a doctor of medicine in 1819, and returned to Charleston in the same year. Through his instrumentality the Legislature of South Carolina was induced to found in Charleston a State College of Medicine, in which Dr. Dickson occupied the chair of practice of medicine until 1847, when, in response to an urgent request, he accepted the same chair in the University of New York. His health, however, obliged him to resign his position, and he returned to Charleston for a short time for recuperation and rest. From Charleston he came to Philadelphia, being called by the faculty of Jefferson College to the same chair that he had so ably filled in the Charleston and New York medical institutions. He remained in Philadelphia from that time until his death. For a number of years Professor Dickson suffered from an affection of the lungs, technically known as *angina pectoris*, that has at times rendered continued speech extremely painful, in despite of which, however, he has rarely failed to fulfil his duties in the rostrum. As an author he attained a world-wide reputation, his greatest work being "Elements of Medicine," published in 1855, besides which he has published a number of works of scarcely less importance, prominent among which are "Dengue: its History, Pathology, and Treatment" (1826), "Essays on Pathology and Therapeutics" (1845), and "Essays on Life, Sleep, Pain, etc," (1852). He also contributed largely to many miscellaneous and medical periodicals. The Philadelphia *Press* says of him. "As a physician, a lecturer, and as an author, Professor Dickson held a place accorded to few men to hold, and in his death not only Philadelphia, his home, or the United States, his country, but the world, of which his learning had made him a cosmopolite citizen, suffers a great, if not irreparable loss.

'14, HUNTINGTON.—The late Jedediah Huntington, of Norwich, Conn., made some very liberal bequests. They are stated as follows in the *Bulletin*: For the establishment of "The Eliza Huntington Memorial Home for Respectable and Indigent Aged and Infirm Females," he gives the house which he occupied at his death, valued at $25,000, and $35,000 as a fund to support it; to the Domestic and Foreign Missionary Society of the Protestant Episcopal church, he gives $10,000, to be divided equally between home and foreign missions; to the Society for the Promotion of Christian Knowledge in this State, he gives $5,000; the Church Scholarship Society, $2,000; aged and infirm clergymen's widows, $1000; Trinity College, Hartford, $5,000; the Berkeley Divinity School, Middletown, $1,000; and various sums to other charitable and benevolent institutions.

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'57, MARSHALL.—Rev. James Marshall has just been settled over the 1st Presbyterian Church of Hoboken, New Jersey. After graduating, he taught several years in Syracuse, New York; studied theology at Princeton, N. J.; was four years in the United States army as chaplain during the war; nearly three years in Europe, chiefly in Germany and Edinburgh, studying theology and recuperating his health; and during the last year has most successfully organized and built up the Westminster Presbyterian Church of Troy, N. Y. He was obliged to leave there in consequence of the climate, the sea air being most favorable to his strength for continued usefulness. Thus far success has marked all his life efforts.

'64, LOOMIS.—Prof. Francis E. Loomis who recently resigned his professorship at Cornell, on account of his health, sailed for Europe on Saturday last. He goes to recruit his health.

'66, HERRICK.—Mr. Albert B. Herrick, left his residence in Burlington, Vt., for New York, Monday, April 1st, and was to sail for England some time during the week.

'69, SMITH.—Charles H. Smith, who by hard study shortened his law course and has already obtained a fine legal practice, has recently been elected a member of the New Hampshire Legislature.

'69, WEITZEL.—Married at Center church, New Haven, Tuesday April 2d, by Rev. Dr. Bacon, C. T. Weitzel to Miss Sophia Shephard of New Haven.

'71, CURRIER.—A. F. Currier who was with the class of '71 one year, is now carrying on a very successful boot and shoe business in Poughkeepsie, N. Y. His place of business is 254 Main street.

THE Yale men met with defeat to quite an extent in the recent Connecticut election. The following were not elected; Richard D. Hubbard '39, who ran for Governor; Charles Atwater, '34, who ran for Lieut. Governor; H. B. Harrison '46, and C. T. Driscoll '69, who ran for members of the legislature, and H. J. Kingsbury '46, and S. E. Baldwin '61, who ran for State Senators.

GLEANINGS.

PERSONAL.

— Lord Lytton has declined to accept the office of Lord Rector of St. Andrews.

— Rev. S. H. McCollester, of Nashua, N. H., has been elected President of Buchtel College, O.

— Dr. Maxwell Simpson, has been elected to the chair of Chemistry, in Queen's College, Cork, Ireland.

— Sir William Thompson has accepted the office of President of the Geological Society of Glasgow.

— Rev. D. Eberly of York, Pa., has accepted the presidency of Otterbein University, Westerville, Ohio.

— Dr. E. O. Haven opens the Spring course of lectures at the Ladies' College, at Evanston, Ill., on April 12th.

— Lieut. McMurray, U. S. A., has reported by letter for duty as military professor at the State University of Missouri.

— Professor D'Ooge of Michigan University, will soon return to his duties in that institution. He brings a wife with him.

— Bishop Atkinson, of North Carolina, is to preach the baccalaureate sermon at Washington, and Lee University next commencement.

— Rev. Lorenzo Westcott, late of Lincoln University, has been elected Professor of Mathematics in Howard University Washington, D. C.

— Dr. Dollinger is to deliver a course of lectures on the religious aspect of contemporaneous history this Summer at the University of Munich.

— Hon. Henry Smith, member of the Missouri Legislature, has been commissioned curator of the State University at Columbia, vice W. W. Orrick.

— Rev. S. P. Leeds, D.D., pastor of Dartmouth College Church is about to make a four months' trip to Europe, mainly on account of his health.

— Rev. Dr. George Burrowes of San Francisco, has been elected Professor of Old Testament Literature and Exegesis in the Theological Seminary in that city.

— Professor Draper of Columbia College, is to edit a new Scientific department, in *Scribner's*, called "Nature and Science," beginning with the May number.

— Professor Andrew C. Ramsay, F. R. S., has been appointed Director-general of the Geological Survey of England, in place of the late Sir Roderick I. Murchison.

— Rev. Lemuel Moss, D. D., editor of the *National Baptist*, has been unamiously elected to the Chair of interpretation of the New Testament in Crosier Theological Seminary.

— Dr. Robert P. Stewart, professor of music in the University of Dublin, recently received the honor of knighthood from the hands of his excellency Lord Spencer, in Dublin Castle.

— Intelligence from Professor Huxley, states that his health has already been greatly renovated by the pure air of upper Egypt. He wrote from Thebes, and was then contemplating a visit to Assouan.

— Mr. G. B. Airy, Astronomer Royal, of England, and Professor Agassiz, were elected foreign associates of the *Academie des Sciences* at a recent meeting in the places of the late Sir John Herschel, and Sir R. I. Murchison.

— The will of the late Professor Treadwell of Harvard College gives at the death of his wife $10,000 each to the Ipswich public library, Boston public library, Harvard College library, American Academy of Arts and Sciences and the Boston Athenæum.

— Dr. Joseph Howe, has been appointed Chemical professor of Surgery; Dr. Henry S. Hewitt, Professor of Chemical Surgery; Dr. Arnold, Professor of Pathological Anatomy; Dr. Kamerer, Professor of diseases of women and children, in the University Medical College, N. Y.

— Mr. F. H. Champneys, B. A. of Brasenose College, Oxford, England, has received the Radcliffe Traveling Fellowship. This fellowship is of the annual value of £200, and may be held by the Fellow for three years, provided he does not spend more than eighteen months in the United kingdom.

— The Rev. Dr. Thomas C. Upham, for many years a member of the faculty of Bowdoin College and well known throughout New England, died Tuesday morning, April 2d, at the house of his brother in New York city. He will be buried, it is understood, in accordance with the wishes of the government of the college, in its cemetery grounds at Brunswick, Maine. Dr. Upham was seventy-three years old.

COLLEGE.

— Marked religious interest is reported among the students of Chicago University.

— There are four literary societies and four secret fraternities in Missouri State University, at Columbia.

— The Library Committee of the State University of Minnesota are authorized to expend $500 annually for library purposes.

— The 'Clark Theological Seminary' at Atlanta, Ga., has opened very hopefully. When it had been in operation four weeks, it had twenty-six regular pupils enrolled.

— The Chair of Chemistry, and the Chair of Agriculture, in the University of Minnesota, are to be united under one professor at the close of the present university year.

— Over forty students in Madison University, at Hamilton, N. Y., have recently been converted, leaving only five in the University who have not made a profession of faith.

— A handsomely engrossed Hebrew poem composed by the students, and dedicated to the trustees, faculty, and patrons, was recently presented to the trustees of Maimonides College.

— The members of the senior class of Williams College have secured the establishment of a telegraph in the centre of the town. The present office is at the railroad station, about three-fourths of a mile from the centre.

— The Endowment Fund of Cornell College, Iowa, has now reached nearly $95,000. The yearly attendance of students is about 350. The present graduating class numbers fifteen, including whom the alumni already number 150.

— The class in machinery and motors in the Massachusetts Institute of Technology, under the direction of Professor Watson, and the class in metallurgy, under Professor Ordway, visited Nashua N. H. last Saturday, for the purpose of inspecting the iron and steel works.

— The General Catalogue of Princeton Theological Seminary is just going to press. Such of the alumni as have not sent replies to the circular questions for this catalogue, are requested to do so at once. Address Professor William Henry Green, Princeton, New Jersey.

— Hillsdale College, Hillsdale, Mich., is said to be in a very flourishing condition under the able management of President Graham. The Hon. Henry Waldron has recently added $5,000 to the endowment fund, and a good many others have followed his example in lesser sums, of from $100 to $3,000 each.

— A bill has passed the Missouri Senate appropriating $100,000 to the State University and School of Mines. The vote stood 27 to 2. On reception of the news at the university, the students assembled in the chapel, and speeches of congratulation were made by the president, Dr. Daniel Read, Prof. S. Wallon, and others.

— The junior exhibition of Hamilton College, took place at the Stone church, Clinton, on the afternoon and evening of Thursday March 28th. There were thirty-three speakers, seventeen of whom occupied the afternoon, and sixteen the evening. After the literary part of the exhibition was finished, the class went to Utica and had a supper.

— The study of the "History and Theory of Art" is being introduced at Evanston, with entire success. The rich treasures of the libraries of Dr. John Schultz —former minister of Public Instruction in Prussia—are of great advahtage in this department. Prof. Bonbright, professor of Latin, purchased this library for the University while on a recent visit to Berlin.

— The trustees of the University of Georgia, who met in Atlanta last Saturday, organized an agricultural and medical college to be connected with the university, and elected a president and faculty in accordance with the act of Congress of 1862, donating lands to the State. Governor Smith has appropriated the whole of the Land Scrip Fund to it. The college goes into operation on the 1st of May next.

— The faculty of the New England Female Medical College, consists of six professors, two of them ladies—Frances S. Cooke and Amelia F. Waters. Eighty-three have received medical degrees from the institution, one of whom is assistant physician in the State Almshouse at Tewksbury, a number are employed in hospitals, one is physician in Vassar Female College, and another in the Mount Holyoke Female Seminary.

— The literary societies of Otterbein University will, this year be addressed by Rev. S. W. Streeter, a former professor. Wednesday of commencement week will be alumni day. The alumni orator is Prof. J. M. Strasburg, of the class of 1865; poetess, Mrs. L. K. Miller, of the class of 1858. Thursday, May 30th, will be commencement day. The new college-building will be dedicated on commencement day, by Bishop Glossbrenner.

— The examinations and closing exercises of the winter term of the Ladies' College, at Evanston, took place on Monday and Tuesday of last week. On Monday evening the Preparatory Department, in charge of Miss Fannie D. Smith, gave an exhibition at the college, the exercises consisting of colloquies, songs, recitations and declamations by the pupils. The examination of Miss Willard's Art class was an important feature of Tuesday's exercises. On Tuesday evening, Miss Kate Jackson's French class gave a very pleasant French comedy in the chapel of the college.

— The discipline in the Ladies College at Evanston, Ill., is on a unique plan. The "marking" and "reporting" systems are abolished, and privileges are made the reward of lady-like behavior. After a certain probation, during which a pupil has been above reproof, she is admitted to certain liberties, and it is possible to establish so good a "character" that a pupil has no rules whatever laid upon her, and shares the dignities of the "authorities themselves." The motto of the teachers is, "We will trust our girls just as far as they shall make it possible." "The Roll of Honor" receives, each month, additional names of those who prove themselves capable of self-government.

No Teachers' Institute this season seems to have given greater satisfaction to the community visited than the one held in Clinton, March 21—23. The beautiful Morgan school building was opened for the various meetings of the institute, and liberal provisions were made by the citizens for the entertainment of teachers. Among the more distinguished speakers present were Gov. Jewell, Hon. L. S. Foster, late Vice-President of the United States, Judge Elisha Carpenter, Prof. T. A. Thacher, and Hon. H. M. Cleveland. Sec. Northrop's management of this institute was warmly praised by those in attendance.

— Temperance men, you can safely recommend Williams' Extract Jamaica Ginger. 70

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YALENSICULA.

From Yale Courant, Apr. 3, 1872.

A goodly number of students rose early and attended the half-past six services at Trinity, on

A hundred or more students voted at the election last Monday.

Fifteen or twenty base-ball clubs have been written to with reference to games next term.

The silver cup which so long graced the basement of the Gymnasium, has at last become the prey of the memorabilia hunter, "Ubi sunt O pocula," &c.

The elder Jackson has a class learning the chimney sweep's warhoop, and it will soon be taken to all parts of the land.

The '73 *Lit.* Board have added another to the eccentricities of their predecessors. They refuse to let any one touch their triangles and look blank when the subject is referred too.

The April *Lit.* appears next Saturday or Monday.

The faculty have reiterated their warning that if the regulations in the use of the bowling alley, are not complied with, the institution will be abolished.

Fearon of Yonkers, N. Y., is working the University shell, as also shells for '74 and '75 and a barge for '75. Blakie of Cambridge, Mass., is making a barge for the University and Scientific School.

The monthly meeting of the Yale Missionary Society, took place last Sunday evening at the Marquand Chapel, and was addressed by Mr. Barnum of Turkey.

Professor Northrop was gladdened by receiving Commencement pieces on Saturday last. The variety of subjects is immense, and the venerable audience of July next, little knows what great things are in store for them.

The Faculty solemnly voted that the music of an excited Senior, on a tin horn, at the time of the failure of gas in Durfee, was worth five marks. Tin horns would then appear to be under the ban.

We understand that Chatfield's cheap book sale is quite a success. Our readers will recollect that every dollar's worth of books purchased, entitles the individual to a vote in the matter of the bestowal of the eighty dollar Bible. A careful canvass of the senior class, reveals Mr. Washington, pastor at Little Union, ahead.

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, APRIL 13, 1872. NUMBER 15.

SECRET SOCIETIES IN COLLEGES.

BY PREST. J. BLANCHARD, WHEATON COLLEGE.

It is now some year or two, since the COURANT called attention to this subject; and it seems to me that its acknowledged importance justifies recurrence to it in the only Journal devoted exclusively to Colleges.

Since the COURANT articles, referred to, Howard Crosby, D.D., Chancellor of the New York University, has arrayed himself against them with great force and acumen in the Boston *Congregationalist*. His three main objections to them are:

1. "They are pretences, and thus at war with truth, candor, and manlinesss."

2. "The opportunity given by secrecy to immoralities," and

3. The confidence between parent and child is broken, and hence destroyed by these Secret Societies." "How a father's heart sinks, as his son, returning from College at his first vacation, refuses for the first time to be full and candid in his communications."

It will be remembered by those who read the COURANT articles referred to, that the fact was given that Dr. Hitchcock, President of Amherst, when the revival of the secret orders in this country had reached and begun to affect that institution, wrote to the Presidents of nine old Eastern Colleges, and, in his last book, "*Reminisences of Amherst College*," he gives their nine responses, all of them condemning Secret Societies in Colleges, and on distinct and separate grounds. And so far as my personal knowledge and acquaintance extends, the very forcible utterances of Chancellor Crosby in condemnation of these societies, find an echo in the experience and convictions of every college officer who has met their influence in the discharge of his official duties.

The Central College Association, which met last July at St. Louis, and the year before at Oberlin, Ohio, began in an Illinois College Association, but now represents the Colleges of six or eight States adjacent. At the Oberlin meeting, the President of one of our strongest Illinois Colleges brought up the subject, and a committee was appointed to see whether the Boards of the principal Colleges would enter into a mutual agreement to suppress and exterminate secret societies from their several institutions. As nothing was heard from that committee's labors at the St. Louis meeting, it is to be presumed that nothing effective could be done. But the inauguration of such an effort evinces the deep hold the subject has on the convictions of many of our best men, and ablest educators; and that their convictions as to the poisonous and destructive nature of College Secret Societies, does not differ from the testimony elicited by the correspondence of the Amherst President long ago.

When I saw, lately, that the old and venerable "*Linonia*" and "*Brothers in Unity*" had passed away at Yale, the modern Secret Societies, as stated by the COURANT, having, like mistletoes out-grown, sucked out their life, and strangled them, I hoped the multitude of Yale alumni throughout the country, who were, in their College day, members of those two old literary societies, would have been aroused to reflection and remonstrance by their death. Are our ideas to be reversed? Were Dr. Hitchcock and his nine coevals in College Presidency mistaken? Is Howard Crosby mistaken? Is Prest. Gulliver of Knox College mistaken? and were all those mistaken who concided with him? If not, then it follows that the mass of our American Colleges have in them a disease, which will result in a moral and mental paralysis; assimilating our seats of learning to those of the Romanizing countries, where culture has displaced principle, and secrecy and ceremonies are substituted for religion.

It may be that France and Spain and Mexico would be governmental mud-volcanos, if their old seats of learning had not been cloisters, and furnished the moulds in which the modern College secret orders were run. But surely, no Nation can see more clearly, for having its Collegs, which should be its eyes, enveloped in

"The blanket of the dark,"

and it requires but the slightest attention to such things to perceive that from the "mysteries" of the Pyramids to the latest hatched of their brood; all *secret orders*, but especially College orders, are fashioned after the same idea—an initiation through a portal of wonder. and some ceremonies, ending in a pledge, binding to one thing or another, and for one purpose or another. And the history of such orders shows that their constitutions are all cones, at whose apex there is a despot, and that fun and frolic blend with the mock-solemn and mock-majestic.

It is now many years since I spent an entire day with a Romish Priest in the "*College Seminaire*" at Quebec. He had left New Hampshire to study French in Canada, and was now a Professor in a Jesuit's College. I was young, fresh from a New England College, and knew and could learn but little of the dark corridors, and to outsiders, unaccessible galleries of an institution modelled and administered by minds who had left manhood in becoming priests. But I could see proofs all around me, in the artificial grades and subordination of one to another, how pliable men become when iniated into orders, packed into grades, and fused into a mass. May God deliver our Colleges from "orders" and "affiliations" which are assimilating them to that one. The mind that has taken a pledge of secrecy that binds its honor, however shallow and trivial, is in a condition analogous to a human body with ossifications begun at the heart.

It is argued, abundantly, that our colleges are too many, and too poor; and ill paid professors, and gaunt libraries, and universities without graduates, or classes form a panorama to which our gaze is often invited. The remedies proposed are, a diminution of numbers, and an increase of funds. This may be sound and good; and certainly we shall not object to the funds. But money poured by the million into colleges controlled or characterized by Secret Societies, will but make their darkness more visible, and turn the thoughts of earnest truth-loving men, to Elihu Burritt, and his learning acquired in a blacksmith shop.

TUFTS COLLEGE.

ITS NEW DORMITORY AND ITS PROSPECTS.

The new hall commenced in the Spring of 1871 is at length completed. It stands as a new evidence of the prosperity of this young Institution and also of the wisdom of that policy, which has nevertheless often called forth the discontent of student and alumnus in not gratifying their ambitious yet loyal desire to see their alma mater amply provided with builings. The policy has been not to spend money extensively in this field until the expense could be met without crippling the Institution so seriously in other directions. Had the corporation built before, not only would that danger have been incurred, but it would never have dared think of erecting simply as a dormitory such an edifice as has just been received from the hands of the builders. The expense of the building will not fall far one side or the other of $50,000. As the attempt has been made to construct a model building of its sort—at least so far as the interior is concerned—it may be of interest to describe it somewhat in detail.

The material is a handsome faced brick with trimmings of Ohio sandstone. The building is rectangular, 120 feet long by about 43 feet wide, consisting of three clear stories and an attic with large dormer windows, which allows very good rooms since the pitch of the roof is quite steep. At the four corners the roof breaks into pyramidal spires, about 12 feet square at the base, rising to about the height of the ridge pole. In these also are large ornamental dormer windows. In the centre of the front and rear walls, the brick work is carried higher, forming here a sort of dormer effect, where the roof again is broken and rise somewhat higher than the ridge of the building, in form of a wedge, whose edge is about half the base. The whole, main roof, spire and wedges, is slated and surmounted by ornamental iron crest-work. The effect of this odd roof, is at least striking. The entrances, two front and two rear, are through covered porches, in simple Gothic style, in which the Ohio stone forms a prominent element. The arch principle is freely employed in the doors and windows.

The structure is divided transversely into two distinct halves by a solid brick wall, and each half is strengthened by two parallel brick partitions, pierced for doors on either side of the entry. In each half, on each floor, are four suites of rooms. Each suite consists of a study 18x14 feet, with a good closet, and a bed-room 16x9½ with a large closet 9½x4. These rooms are high and airy, those on the first floor, being 12 feet in the clear. There has been no paint employed on the interior. The whole finish of the building from basement to attic is a handsomely filled brown ash. All the rooms are wainscotted with the same. They are excellently lighted and ventilated, the windows being ample and glazed two panes to a sash. Each study has an open fire-place and marble mantel. The first floor is some four feet above the ground in front, and rather more in the rear, allowing a well lighted basement. Here are conveniences seldom found in buildings of this character. In either side are wash rooms, with numerous marble basins, three bathing rooms, supplied with hot and cold water, and water-closet. Water is introduced from the reservoir of the Charlestown water-works, but a few yards distant, the blue surface of which gives a pleasant water view, even from the first story windows. The general view from any of the windows is unsurpassed, the hill whose summit this building crowns, giving a view of the whole vicinity of Boston, an average radius of six or eight miles.

The annual rental of these appartments is especially worthy of remark. Notwithstanding the cost of the building, they will rent for probably $60, thirty dollars each, where two students room together. A similar style of apartment, in one of the new halls at Harvard rents, we are told for $250. The price of room rent will furnish a commentary on the statement that a young man can pass his four years comfortably at Tufts with an outlay of from $400 to $450 annually. Board in the students own club, its officers and steward being of their own number and responsible only to them, is $3.50 per week, and is reported to be excellent.

It is safe to predict that the erection of this really elegant building, is the beginning of a period of activity in this direction. A new building to be devoted especially to the natural sciences, to be built from the Walker mathematical foundation, is already projected. A gymnasium will probably precede it.

The present endowment of Tufts falls but little short of $1,000,000. Like all other institutions, it feels itself poor even with this comparatively generous property, for such is the constantly increasing demand

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upon our highest institutions of learning, that the years which bring generous additions to the endowment, also strengthen the conviction of the difficulty of supplying these demands with anything less than unlimited resources. It is certain, however, that with its future assured by a fund, that twenty years ago, would have seemed princely, the young Massachusetts college feels within itself the force and will do to liberally for its students, in what pertains to physical comfort and intellectual culture. *

Tufts College, April 2d, 1872.

THE AMERICAN SYSTEM OF PUBLIC INSTRUCTION.

The original draft of the following statement in reference to the American system of public instruction was prepared in answer to a call from Mr. Mori, Japanese Minister at Washington, by Prof. D. C. Gilman, of Yale College. Mr. Mori applied to Rev. Birdsey G. Northrop, who, as is well known, has received a call from the same source to take charge of the public instruction of the Japanese empire, for an authoritative statement of this kind, and in answer to this application the annexed document has been prepared. In order to secure accuracy, completeness, and a just regard to various opinions, the original draft of this statement was put in type and sent as a proof-sheet to the Presidents of Harvard, Yale, Dartmouth, Williams, and other New England colleges. It was brought to the notice of some of our Senators and Representatives in Congress; it received the supervision of various gentlemen personally concerned in the administration of school systems; the exponents of various religious bodies were consulted in regard to it, and the comments of all these parties when received were carefully collated. There were no differences of opinion on essential points. In some important particulars, the phraseology was improved. Ex-Gov. Emory Washburne, who is especially conversant with the school systems of New England, gave a very searching scrutiny to every turn of every sentence. His successor, the present Governor Washburne, of Massachusetts, also made two or three important suggestions. The criticisms of President Porter and President Eliot upon the college and university paragraphs were very well put, and are embodied in the phraseology now employed. Many other gentlemen of like intelligence might be quoted — such as Dr. McCosh, Senator Buckingham, Representatives Dawes and Hoar, Hon. A. D. White, and others—but the object of these allusions is simply to lift the statement above the form of an individual expression of opinion.

In preparing this summary, the effort has been made to state only those principles which are essential to the system and are everywhere recognized. The local peculiarities of different parts of the country are only alluded to in a subordinate manner. An endeavor has also been made to state facts, rather than theories or doctrines, and to keep the language wholly free from personal, provincial, political, or ecclesiastical prejudices. The men whose names are appended to the document have all endorsed it as a trustworthy statement of our public instruction. It is expected that it will be translated into Japanese and circulated among the officials of that empire. The following is the statement:

I. EDUCATION UNIVERSAL.

The American people maintain in every State a system of education which begins with the infant or primary school and goes on to the Grammar and High Schools. These are called "Public Schools," and are supported chiefly by voluntary taxation, and partly by the income of funds derived from the sale of government lands, or from the gifts of individuals.

II. PUBLIC SCHOOLS HAVE BEEN TRIED FOR 250 YEARS.

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III. THE WELL KNOWN ADVANTAGES OF EDUCATION.

It is universally conceded that a good system of education fosters virtue, truth, submission to authority, enterprise and thrift, and thereby promotes national prosperity and power; on the other hand, that ignorance tends to laziness, poverty, vice, crime, riot, and consequently to national weakness.

IV. STATE ACTION INDISPENSABLE.

Universal education cannot be secured without aid from the public authorities; or in other words the State, for its own protection and progress, should see that public schools are established in which at least the rudiments of an education may be acquired by every boy and girl.

V. THE SCHOOLS ARE FREE, ARE OPEN TO ALL, AND GIVE MORAL NOT SECTARIAN LESSONS.

The schools thus carried on by the public, for the public, are (*a*) free from charges for tuition; (*b*) they are open to children from all classes in society; and (*c*) no attempt is authorized to teach in them the peculiar doctrines of any religious body, though the Bible is generally read in the schools as the basis of morality; and (*d*) the universal virtues, truth, obedience, industry, reverence, patriotism and unselfishness, are constantly inculcated.

VI. PRIVATE SCHOOLS ALLOWED AND PROTECTED BY LAW.

While Public Schools are established everywhere, the government allows the largest liberty to Private Schools. Individuals, societies, and churches are free to open schools and receive freely any who will come to them, and in the exercise of this right, they are assured of the most sacred protection of the laws.

VII. SPECIAL SCHOOLS FOR SPECIAL CASES.

Special schools for special cases are often provided, particularly in the large towns; for example, Evening Schools for those who are at work by day; Truant Schools for unruly and irregular children; Normal Schools for training the local teachers; High Schools for advanced instructions; Drawing Schools for mechanics, and Industrial Schools for teaching the elements of useful trades.

VIII. LOCAL RESPONSIBILITY UNDER STATE SUPERVISION.

In School matters as in other public business, the responsibilities are distributed and are brought as much as possible to the people. The federal government being a Union of many States, leaves to them the control of public instruction. The several States mark out, each for itself, the general principles to be followed and exercise a general supervision over the workings of the system; subordinate districts or towns determine and carry out the details of the system.

IX. UNIVERSITIES AND COLLEGES ESSENTIAL.

Institutions of the highest class, such as universities, colleges, schools of science, etc., are in a few of the States maintained at the public expense; in most they are supported by endowments under the direction of private corporations which are exempted from taxation. Consequently, where tuition is charged the rate is always low. They are regarded as essential to the welfare of the land, and are everywhere protected and encouraged by favorable laws and charters.

The above summary of the American System of Public Instruction has been endorsed by the following gentlemen:

Noah Porter, D.D., LL.D., President of Yale College.
T. D. Woolsey, D.D., LL.D., Ex-President of Yale College.
Charles W. Eliot, LL.D., President of Harvard University.
James McCosh, D.D., LL.D., President of College of New Jersey.
Asa D. Smith, D.D., LL.D., President of Dartmouth College.
Mark Hopkins, D.D., LL.D., President of Williams College.
J. L. Chamberlain, LL.D., President of Bowdoin College.
S. G. Brown, D.D., LL.D., President of Hamilton College.
W. A. Stearns D.D., LL D., President of Amherst College.
Joseph Cummings, D.D., LL.D., President of Wesleyan University.
Abner Jackson, D.D., LL.D., President of Trinity College.
H. D. Kitchtell, D.D., President of Middlebury College.
Alexis Caswell, D.D., LL.D., President of Brown University.
M. H. Buckham, President of Vermont University.
A. A. Miner, D.D., President of Tufts College.
J. T. Champlin, D.D., President of Colby University.
James B. Angell, President of Michigan University.
A. D. White, LL.D., President of Cornell University.
W. H. Campbell, D.D., LL.D., President of Rutgers College.
W. W. Folwell, President of the University of Minnesota.
D. C. Gilman, Professor in Yale College.
Hon. Warren Johnson, Superintendent Public Instruction, Maine.
Hon. J. W. Simonds, Superintendent Public Instruction, New Hampshire.
Hon. J. S. French, Superintendent Public Instruction, Vermont.
Hon. Joseph White, Superintendent Public Instruction, Massachusetts.
Hon. T. W. Bicknell, Superintendent Public Instruction, Rhode Island.
Hon. B. G. Northrop, Superintendent Public School Instruction, Connecticut.
Hon. A. B. Weaver, Superintendent Public School Instruction, New York.
Hon. E. A. Apgar, Superintendent Public School Iustruction, New Jersey.
Hon. J. P. Wickersham, Superintendent Public School Instruction, Pennsylvania.
Hon. Newton Bateman, Superintendent Public School Instruction, Illinois.
Hon. Oramel Hosford, Superintendent Public School Instruction, Michigan.
Hon. Thomas W. Harvey, Superintendent Public Instruction, Ohio.
Hon. E. E. White, Ex-Superintendent Public Instruction, Ohio.
Hon. M. B. Hopkins, Superintendent Public Instruction, Indiana.
Hon. Samuel Fallows, Superintendent Public Instruction, Wisconsin.
Hon. H. B. Wilson, Superintendent Public Instruction, Minnesota.
Hon. Alonzo Abernethy, Superintendent Public Instruction, Iowa.
Hon. John Monteith, Superintendent Public Instruction, Missouri.
Hon. H. D. McCarty, Superintendent Public Instruction, Kansas.
Hon. M. A. Newell, Superintendent Public Instruction, Maryland.
Hon. Gustavus J. Orr, Superintendent Public Instruction, Georgia.
Hon. J. D. Philbrick, Superintendent Public Instruction, Boston.
Hon. J. L. Pickard, Superintendent Public Instruction, Chicago.
Hon Peter Parker, ex-Minister to China.
Ex-Gov. Emory Washburn, Professor in Harvard Law School.
George B. Emerson, LL.D., Boston.
Hon. Henry Wilson, United States Senator.
Hon. J. W. Patterson, United States Senator.
Hon. W. A. Buckingham, United States Senator.
Hon. O. S. Ferry, United States Senator.
Hon. F. T. Frelinghuysen, United States Senator.
Hon. H. L. Dawes, Representative in Congress.
Hon. N. P. Banks, Representative in Congress.
Hon. Marshall Jewell, Governor of Connecticut.
Hon. James E. English, ex-Governor of Connecticut.
Hon. Joseph R. Hawley, ex-Governor of Connecticut.
Hon. W. B. Washburn, Governor of Massachusetts.
Hon. William Claflin, ex-Governor of Massachusetts.
Hon. Henry Barnard, Late U. S. Commissioner of Education.
Barnas Sears, D.D., Agent of Peabody Educational Fund.
S. C. Jackson, D.D., Assist. Sec. Mass. Board of Education.
Selah B. Treat, D.D., Secretary A. B. C. F. M.
N. G. Clark, D.D., Secretary A. B. C. F. M.
E. W. Gilman, Secretary A. B. S.

THE OXFORD-CAMBRIDGE BOAT RACE.

[The following account of the great university boat race is from the New York *Tribune* of April 4th, written for it by Mr. G. W. Smalley, (Yale '53) its celebrated regular correspondent. The great length of Mr. Smalley's letter has necessitated the leaving out of a portion of it].

Ever since the appearance of the Oxford and Cambridge crews on the Thames, now more than a fortnight ago, there has been a settled conviction on the part of the public that Cambridge must win. Perhaps it would not be too much to say that conviction and desire went together; still there were plenty of good reasons for the prevailing view. Oxford has been unlucky almost from the beginning of this year's practice. Unusual difficulty was experienced about a crew, and it looked at one time as if the captain of the University Club was quite unable to make up his mind who should row in the boat or where they should row. After many other changes he finally changed the stroke himself, and Lesley was degraded from No. 8, and assigned to No. 7. A strained side was the cause. The effect of that alteration has been that a crew accustomed to Lesley found it difficult to adapt itself all of a sudden to Houblon, and good critics say that throughout their Thames work they have continued to take the stroke from Lesley at No. 7 instead of from Houblon at No.

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8. The style of the two men is as unlike as possible. Lesley has been unlucky, but at least he retains some of the traditions which gave Oxford its long supremacy, while Houblon's stroke is comparatively short and quick. With this collision going on in the boat, it is no wonder that Oxford has been very rough, and that in mere appearance the rowing of the Dark Blues should have little to commend it to popular favor. Ill luck followed them closely, down almost to the very day of the race. No. 2 had been early marked as a weak spot. Mr. Armitstead is a good man who has overworked himself from sheer anxiety to do his university and himself full justice. He rowed himself to pieces in mere practice, and so late as Wednesday, three days before the race, he had to give up his place in the boat to Mr. Knollys. Nothing could be more inauspicious of victory than an enforced change at so late an hour. On the all-important question of the boat they should row in, the Oxford men have been almost equally at sea. They did not like the Salter they brought with them. She was too heavy. She would not travel. She did not suit the men. A boat was ordered from—of all places in the world—Dublin, which city possesses a builder of some repute in one Mat Taylor, and this boat arrived in a three-quarters finished state a week or so before the day. She was tried and liked, and then tried again and disliked. The stretchers gave way and the outriggers were too high, and finally a timed trial proved that she was ten seconds slower from the Bridge to the Point—a matter of less than three minutes' rowing—than the old Salter. So on Thursday it was settled that the old Salter must carry the crew. What hope could a crew, weighted with all their mishaps, have of winning?

Cambridge, on the other hand, have neither met with accidents, nor had to contend with the kind of prejudice which early set in against their rivals. During the latter years of their long series of defeats, they had everybody's sympathies with them, and these they still retain. Out of the whole number of races Oxford has still a majority of four, the score standing 16 to 12; and as the interest of these contests depends a good deal on their equality, there is a feeling that fortune ought to bring Cambridge on level terms with her opponent before she deserts her. Beside all which, the public, or so much of the public as knows anything about rowing, dearly like style, and in respect of style Cambridge, as every body admits, is far superior this year to Oxford. Of what went on before the actual race I speak only from hearsay, for I have not been able to see any of the practice. Generally, there are almost as many opinions as critics. This year hardly anybody had a good word to say for Oxford. They did not keep good time, did not feather together, did not finish together, and were pronouced to be, as a whole, a ragged and untidy crew. It may be necessary to say, for the benefit of the unlearned, that those opprobrious adjectives by no means apply to the dress or personal appearance of the crew, but solely to their defective rowing. External appearances were all in favor of Cambridge. There are those who say they do not row far enough back, and have never thoroughly acquired that mysterious catch of which we have heard so much during late years. But in respect of polish and prettiness of work the rowing world agreed that a more perfect crew had seldom been seen on the Thames. Moreover, it had been remarked that Oxford, who were at first considered the stronger crew, showed frequent signs of distress after a long spin, poor Armitstead especially shutting up very early on more than one occasion, when either the whole course was rowed over, or on a trial against a scratch crew of some London club. Nothing of the sort could be detected among the Light Blues. They would come in at the end of a four mile row against time in as good form as they started.

* * * * * *

The two crews came out very punctually, the start having been fixed for 1:10, and both crews having their boats afloat before that time. So much depends on the state of the tide and the neap tides are so uncertain that one can never be sure of the start within half an hour or so. The flood this morning happened to make early. From where the four steamers were moored—just above the aqueduct—to the boat-houses may be 150 yards, but so thick was the snow that nobody could tell what crew was first on the water, and even when they were halfway down, to us we disputed whether it was Light Blue or Dark Blue. It proved to be the latter. Cambridge followed in a couple of minutes. I need not describe again the arrangements for starting. They have been followed, I believe, everywhere in America. We had a good view of both eights while they were approaching, and then while they were waiting for the word. It was plain that the popular verdict in favor of Cambridge style was a just one, if any estimate could be formed from their appearance as they paddled down. Oxford seemed big, but that is, I believe, because their thwarts are higher and the men sit up more in the boat. Altogether they were not a bad looking crew, though there were criticisms enough to be made on individual men. Houblon looked as if he had hardly done work enough, which was of course true still more perceptibly of Knollys, while Lesley had the air of being overtrained. Later on it became clear that No. 1 was not at all in order. Cambridge were more alike and as fit as could be. I could not but admire the way in which Goldie had developed since last year. He has the shoulders of a young giant, and as to his loins, which are of more consequence, the work he has done shows what they are. Neither crew has chosen to be weighed, or to publish their weights for some days, but the following list contains the latest figures that are known:

CAMBRIDGE.

	Stone.	Lb.
1. Jas. B. Close, First Trinity,	11	3½
2. C. W. Benson, Third Trinity,	11	4¾
3. G. M. Robinson, Christ Church,	11	13½
4. E. E. A. Spencer, Second Trinity,	12	8½
5. C. S. Read, First Trinity,	12	8½
6. John B. Close, First Trinity,	11	10½
7. E. S. L. Randolph, Third Trinity,	11	11½
J. H. D. Goldie, Lady Margaret (stroke),	12	4½
C. H. Roberts, Jesus (cowswain),	6	6

OXFORD.

	Stone.	Lb.
1. J. A. Ormsby, Lincoln,	10	13½
2. C. C. Knollys, Magdalen,	10	13
3. F. E. H. Payne, St. John,	12	13½
4. A. W. Nicholson, Magdalen,	12	1½
5. E. C. Malan, Worcester,	13	6
6. R. S. Mitchison, Pembroke,	12	1½
7. R. Lesley, Pembroke,	11	12
T. H. A. Houblon, Christ Church (stroke),	10	3½
F. H. Hall, Corpus Christi (coxswain),	8	0½

Cambridge luck was still to the fore. She won the toss, and according to the tradition which prevails, took the Middlesex berth, the advantage of which seems to me very slight at the start and less than nothing afterwards. Mr. Searle was the starter, and gave the word at 1 h. 34 m. 52 s. The two boats got away as nearly as possible together. In a dozen strokes Cambridge seemed to have gained a few inches' lead, but the difficulty of judging from a steamer astern is very great, and a lead is not certainly seen till it has become considerable. The moment they had settled down to work, the better form of Cambridge became evident, and it was also clear that both crews were better than the average. The Cambridge stroke has not a trace of the faults of five years' ago, and it has nearly all the merits which made that of Oxford so long famous and successful. Goldie is the rival, if not more than the rival, of Darbishire, and is, to my eye, a better looking man in a boat. What I have quoted above about the rowing of the two crews during their practice is nearly true of their rowing during the race. But I could not see any want of catch in Cambridge. Goldie has it beyond question, and not Darbishire himself, who was celebrated for it, got a more sudden grip of the water at the beginning of his stroke. His men have learned well the lesson he has been setting them for four years past. They were perfectly together throughout the race. At the start they rowed 38 to the minute, Oxford beginning with 40, which did not keep them from being, as far as we could judge, nearly half a length behind at the Point. Just there began the curious steering of the Cambridge coxswain, which more than once afterward during the race was inexplicable to us. He kept close to the Middlesex shore, and being out of the tide, while Oxford had the full strength of it, the Dark Blue began to creep up, so that for some time it was hard to say whether Cambridge had any lead at all. Goldie had no idea of leaving the matter long in doubt, and calling to his crew at the wharf he took them up to the Crab Tree in such style that the tide could no longer keep Oxford by their side. This feat had to be repeated just below Hammersmith Bridge, and again just above it; the crew being forced by the coxswain's deviation from his right course to row two otherwise needless spurts to maintain and increase their lead. They shot the bridge, still about half a length in advance, the time from Putney being 8m. 29s. It was at the bridge that we for the first time caught sight of the old-fashioned crowd, and heard the old shout which welcomes the leading crew as it passes under the arch. Thence around the right bank of the river was pretty thickly peopled, but neither there nor at Barnes, nor at Mortlake was there more than perhaps half the throng which turned out last year.

Above Hammersmith Bridge came the struggle which always comes. I do not remember to have seen a race from Putney to Mortlake which was not in fact decided between the two bridges. It was so this year. Encouraged by the wide berth which the Cambridge coxswain was giving the Surrey shore just where the bend was greatest, Houblon made his effort. The stroke had been about 40—certainly two more than it ought—all the way from Putney. It was more than Oxford could row through, and more than they could row uniformly. Nevertheless, Houblon put on steam, and crowded his men in a moment up to 43 or 44. Thanks partly to that spasmodic effort and partly to the favor which the course gave them, Oxford, at first, came rapidly up with their opponents. I was watching Goldie at the moment through a glass, but could not detect a change in his face nor in his stroke. I doubt if Cambridge ever rowed 40 from one end of the race to the other. They answered the Oxford spurt, but it was not by quickening their stroke. Before they were past Chiswick Eyot, the effort of Oxford had died away, and the effects of it showed themselves all over the boat. They never at any time went to pieces in the crazy way the last year's crew did, but their chance of winning the race, if they had one, was at an end. Cambridge went ahead, rowing well within themselves and all the time in most admirable style. Taking the last two miles together, it is seldom—never, I think, of late years—that a better bit of rowing has been seen on the Thames.

The race from this point needs no long description, Oxford moved on with unyielding pluck, but without a hope. The cheers of the crowd grew heartier all the way to Mortlake as they saw their favorite coming up with the race perfectly in hand. As Lesley did last year, so Houblon to-day tried a final spurt above the Barnes Bridge and within a few hundred yards of the post, but it was all for honor's sake and not with a notion of reversing the settled fortunes of the day. Cambridge swept by with her measured stroke, and when the gun fired, was, as nearly as possible, two lengths ahead. From our steamer the eight looked like a pair-oar. Oxford came in a good deal distressed, as was natural, but, on the whole, they made a better race of it than most people believed they would or could. The time was 21 minutes 14 seconds—fairly good, the tide and weather considered. Our snow-squall had stoped almost without our noticing it, though for the first mile we had hardly been able to keep our eyes open, so violent was it, with the rapid motion of the steamer. But the wind was not violent, and the water was nearly smooth throughout the course. Latterly, something that looked like the sun came out for ten minutes, and there was a prospect of at least decent weather to go home in. In ten minutes more came a fresh squall, first of rain and then of snow, and the last hope of a bright holiday vanished.

London. March 23d, 1872. G. W. S.

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FRENCH COLLEGES.

[The special correspondent of the *Boston Daily Advertiser*, who signs himself H. T., thus describes, in an interesting letter from Paris, three of the higher institutions of learning in that city:]

Nearly all of the leading cities have schools more or less renowned; and those of Paris are different in degree rather than in kind. The University of France comprises a group of schools at Paris, among which are the Sorbonne, with its several faculties, the college of France, the law school, the medical school, the school of mines, etc. The first semestre of the present academic year is just finished; the second will begin early in April. The lecturers in all of these schools are appointed by the government on the recommendation of the permanent board of overseers, but the interference of the government is rather nominal than real. Sometimes its power is enforced, as when it kept Ernst Renan in the chair of Hebrew against the protests of the clergy. But in general the action of the State is confined to a formal approval of such men as are nominated to it. If this were not the case one can hardly suppose that M. Thiers would tolerate a state of things which fills, I think, all the professorships of political economy with free-traders. The course of lectures are open free of charge to all the world, but candidates for a degree are obliged to pursue a prescribed course and submit to regular examination.

The two departments in which the political sciences are most extensively studied are the College of France and the faculty of letters of Sorbonne. Inthe latter there are on an average four courses a day, each professor lecturing twice a week. The subjects may be divided into three classes, philosophy, history and literature. But the two former cover wide fields, and are often, such is the tendency of the French mind, a mere shelter from beneath which the learned professors expound their views on political subjects. For example, M. Caro, a remarkably clear speaker, is announced to lecture on the "Principles and Elements of Social Morality," and the hall is generally filled with auditors who like to hear M. Caro speak on politics. M. Paul Janet, a still abler man, lectures on the "History of Philosophy," but this too means the history of political philosophy. You will see that the subjects here announced are quite limited, yet both the eminent gentlemen have managed to go pretty well over the field of political science. Their lectures are not profound, neither are they exactly superficial. Either course formulated into a code would be of considerable value, and to ambitious students are the foundation of a good political training. M. Janet is particularly instructive in his summary and comparison of the doctrines of different writers on the subject, such as Machiavelli, Rosseau, Montesquieu, etc., and this leads one to say that he is the author of a book in which the course of politico-moral speculation is quite fully recounted.

Let us now pass to the College of France. The courses here which treat more or less directly the several branches of politics are as follows: E. Levasseur, history of economical theories; Ad. Franck, natural law of society; Michel Chevalier, political economy; Alfred Maury, German and French civilization; De Rozière, history of laws compared. Some of these men, such as Michel Chevalier, have an American reputation; the others are of various degrees of capacity. The most popular lecturer, and at the same time the poorest speaker, is M. Ad. Franck, a thin, small man, who looks much like President Woolsey, and who contrives and makes interesting studies on Hobbes and Rousseau and Leibnitz. Perhaps the professor who does the most work is Ed. Levasseur, a young man, who besides this course has other courses at the School of Arts, and at an independent school of which I will speak hereafter. He has just finished an elaborate and valuable history of the working classes in France. The law school affords, besides the purely professional courses, lectures on constitutional and international law, on political economy, and on what the French call "criminology," or the science of penal legislation. The two lecturers on political economy are Messrs. Boissonade and Leveillé. The chief lecturer on international law is a M. Ch. Giraud, who visited the rebel States in 1863, and wrote a pamphlet urging the Emperor to recognize the independence of the Confederacy. The dean of the faculty, M. Colmet-Daage, lectures once a week on constitutional law, a subject on which he is a recognized authority. M. Ortolan, a publicist equally known, has the subject of penal legislation. At the School of Arts there are two lecturers on political economy, M. Wolowski, the deputy, with Levasseuf as alternate, and M. Burat. Most of M. Wolowski's work this season has fallen to M. Levasseur. The last named school is rather special and elemental in its character. The lecturers on political economy confine themselves to the more simple truths of the science, such as the advantages of labor-saving machines, the folly of strikes, etc.

There is another school independent of the government, and devoted, as its name shows wholly to the study of political sciences. It is called the Ecole Libre des Sciences Politiques, and I think it is authorized to give some sort of a degree. The regular course lasts two years, the terms, of which there is one a year, stretching from November until late in the Spring. There are a dozen series of lectures and half a dozen professors. M. Levasseur lectures on political economy, as does M. Paul Leroy-Beaulieu, one of the rising men of France. Paul Janet has a course on the social history of France since the revolution. There are also lectures on general history, on international law and diplomacy, and on the philosophy of politics. The system is very comprehensive; and though it has been in operation only two or three years, it has won the attention and approval of some of the best men in France, such as MM. Guizot, Michel Chevalier and others. The fees are quite moderate, being one hundred and fifty francs yearly for all the courses, or twenty-five francs for any one.

DR. HODGE'S SEMI-CENTENIAL.

The fiftieth year of Rev. Dr. Charles Hodge's service in connection with Princeton Theological Seminary, expires this month, and it is proposed to celebrate the event by a re-union of the alumni and friends of the institution, and if possible by the endowment of a Professorship in the sum of $50,000 to be called the Hodge Professorship. The re-union will occur in Princeton on Wednesday, April 24th, and all friends and former students of the institution, together with the public generally, are invited to be present. The exercises, which begin at 11 A. M., will consist of an address by Rev. Joseph T. Duryea, D. D. of Brooklyn, N. Y.; a meeting of the alumni, and organization of an alumni association. These exercises will be followed by an alumni dinner. In the evening a public reception will be given at the house of Dr. Hodge, and the seminary buildings will be illuminated. Those who are expecting to attend, and desire lodging for either one or two nights, are requested to send their names to Rev. William Harris, Princeton, N. J. For those who do so, provision will be made, and notice returned as to the place of entertainment.

A meeting of some of the alumni was held in the Seminary last June, at which the following resolution in reference to the subject was unanimously adopted:

Resolved, That the proposed celebration of the semi-centennial of Dr. Hodge meets our hearty concurrence, and we cordially unite with the Directors in inviting the friends and former students of the seminary to meet for this purpose in Princeton, on Wednesday, April 24th, 1872; and that this invitation be very particularly extended to all our brethern in different Christian denominations, and in every section of our country, as well as in foreign lands, who have received their education here in whole or in part. And we express the earnest hope that the hallowed memories of the past personal attachments, and local and literary associations with this cherished spot, may be permitted to overcome the long and wide separation of time and place, and ecclesiastical organization, so that we may all upon this glad occasion gather around the instructor whom we all love and revere, a band of bretheren, cemented in Christian love, renewing and pledging a mutual confidence and affection which nothing in the past shall be suffered to dim or to obliterate, and nothing in the future shall be permitted to disturb.

In reference to the proposed endowment of a Hodge Professorship, the following letter has been made public. It is addressed to all who are friendly to the enterprise, whether they are alumni or not. Those who may wish to contribute anything, should send it to Prof. W. H. Green, Princeton, N. J.

PRINCETON, March 28, 1872.

Dear Sir:—Presuming upon your interest in the approaching Hodge Celebration, I take the liberty (I trust an excusable one) of making the following statements in regard to it. In less than a month, Rev. Dr. Hodge will complete his 50th year as a Prof. in the Theological Seminary in this place. He ranks confessedly among the very first of living theologians. His service to the Church during the past half century in training the ministry, and to evangelical religion by his commentaries and other writings, call for some appropriate recognition. With this in view, it has been proposed by the alumni of the Seminary to endow a professorship in the sum of $50,000, to bear the name of Dr. Hodge, and to be a permanent memorial of his long and valuable labors.

Of this amount $23,000 are now subscribed, of which $10,000 have been paid, and are securely invested. I have such assurances from various quarters as satisfy me that we can safely count upon this being increased to $30,000 by the 24th of April, when the semi-centenary of Dr. Hodge will be celebrated. The pupils of Dr. Hodge would not ask to be aided in this effort to do honor to their distinguished instructor, if it were not that a large proportion of them are living on scanty and insufficient salaries; many of them serving the Church as missionaries in this and other lands, or as pastors of feeble congregations. As it is, they have accomplished what they could, and now are obliged to appeal for aid in making up the remainder to those who, they hope, will sympathize with them in this noble project.

Hoping that you may find it convenient to assist us in raising the needed balance of $20,000, I am

Yours very respectfully,

W. HENRY GREEN.

The Book Trade.—The book trade of Great Britian does not appear to make the same progress as the other industries of that country. In 1860, the export of books from the United Kingdom reached the amount of almost a half million pounds sterling, and in 1870 not more than £630,855. The import of books from abroad is even more unfortunate. The value of this in 1860 amounted to something over £100,000, and in 1870 it showed the insignicant increase of £18,871. 1870 was, however, no average year since, in that year the export of books from the United Kingdom was about £46,000 less than in 1869, and the import shows a falling off of £16,000. The value of the British books exported to France fell from £27,085 in 1869, to £18,733 in 1870, and the export to Holland from, £12,377 to £7,969. The export to Germany in 1870 amounted to £17,073 and to Belgium to £8,346; in both cases somewhat higher than in 1869. Though the British colonies were affected little or not at all by the European war, the export of books to them in 1870, figures up with a considerable diminution compared to that of 1869. The greatest consumer of British books is the United States, which is credited upon the list with an amount of over £205,000. As regards the imports of books, that from France fell from £48,509 in 1869 to £31,985 in 1870; that from Hamburg fell from £41,180 to £30,908, and the import from Bremen, from £4,126 to £3,885. The imports from Holland, Belgium and the United States show on the contrary a considerable increase. The German book trade in 1870 produced 10,058, and in 1871 20,889 new literary works. Of these theology, upon which in the two years 2,832 works were written, has the lion's share; next follows jurisprudence with 2,066 works; sixteen hundred and eighty works were devoted to Belles Lettres. —*Ueber Land und Meer.*

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SCIENTIFIC.

The Temperature of the Sun's Surface.—According to M. Vicaire, in a paper read before the French Academy of Sciences, the temperature of the Sun's surface is altogether comparable with the temperature of our flames. The author would not commit himself to any exact number of degrees as representing the solar temperature, but he thought he was within bounds when he said that it fell short of 3,000° centigrade. M. Faye, (the President), M. St. Claire Deville, M. Edmund Becquerel and others favored the opinions of the author.

Coating Metallic Objects With a Black-Brown Varnish.—On the bottom of a cylindrical cast-iron vessel, 18 inches high, is placed a layer, one-half inch thick, of coal-dust (bituminous of course); upon this is placed an iron grating, and thereon are put the iron, steel, or other metallic objects intended to be coated with the varnish. The vessel, having been first closed with a well fitting lid, is next placed on a bright coke fire, and heated for about a quarter of an hour just to an incipient red heat. The vessel is then removed from the fire, and on the lid being removed, after about ten minutes, the metallic objects will be found coated very uniformly with a good and durable varnish, which resists bending, as well as a high temperature, without cracking or coming off. Very small objects, such as hooks-and-eyes for instance, are better placed along with some coal-dust in a coffee roasting apparatus, and this turned, as is usual in the roasting of coffee, until the metallic objects have obtained the desired depth of color and are uniformly coated with the varnish.—*Chemical News.*

Solid Iron Floating on Melted Iron.—E. Schott writes concerning this to the *Berg. u. Hutt. Ztg.* In casting wheels he divided the molds in two parts and surrounded these with a spring ring. As soon as the melted iron poured into the mold began to cool the ring opened, and that up to ¼ inch, the wheel being 18 inches in diameter. After cooling the casting shrunk to less than the original size of the mold. From this it follows that iron when heated has a greater, and when cooled a smaller volume than when fluid. The larger volume must, therefore, possess a less specific gravity, as is confirmed by the phenomenon of solid iron floating on melted iron. Commonly thin pieces of iron are employed for observing this phenomenon. The iron being a good conductor of heat, speedily acquires the temperature of the fluid mass up to a bright red heat — the degree necessary for the greater expansion—and thus acquires a smaller specific gravity than the fluid bath and consequently swims on it; and this it does the more quickly the thinner it is, and *vice versa.* Thicker pieces sink at first, but rise to the surface as soon as they are expanded by the heat—somewhat analogous to the relation of ice to water.

Brandy made from Wood Shavings.—*The Journal of Applied Chemistry* has an account of some experiments made by Zetterlund, to make brandy from shavings. The shavings—those of the leaf-bearing trees being preferable—were boiled, first with water under pressure and then with diluted sulphuric acid—one-tenth part by weight. After eight and a half hours, they contained 3·33 per cent of grape sugar, and after eleven hours, 4·38 per cent. From the 40 cwt. of materials employed, 1·77 cwt. of grape sugar were obtained; this is 19·67 per cent of weight of the shavings used. The acid was neutralized by lime, and the mash thus obtained, was fermented with yeast. It yielded on distillation, 61 quarts of 50 per cent brandy, which was perfectly free from all smell or flavor of turpentine, and which had a pure taste. Proper attention to the details would enable this amount to be increased so as to approximate more nearly the theoretical result, which requires for each hundred weight of shavings, a yield of seven gallons of brandy of fifty per cent.

In this connection, it may be interesting to state that there is in the laboratory of Yale College an excellent sample of syrup made several years ago by one of the assistants from an old linen coat, which he treated in precisely the manner mentioned above. No doubt by the fermentation of this syrup an excellent article of brandy could be made; and so this old and cast-off garment, by the metamorphosing power of chemistry, becomes a sample of pure brandy.

The Aurora of February 4th, 1872.—The aurora which appeared on Sunday evening, February 4th, seems to have been one of the most remarkable on record. Its position in the *Southern* heavens, its deep and fiery crimson color, its persistance for so long a period, maintaining the same position relatively to the stars, and especially the remarkable magnetic disturbances which accompanied it—all combine to render the display a most noteworthy one. Moreover, this aurora was not confined to any particular portion of the Northern hemisphere. It was seen by Piazzi Smith, at Edinburgh, (Lat. 56° North), by the telegraph operators at Aden (12° N.) and even by Meldrum at Mauritius, (Lat. 20° S.) It was observed from Bombay, (Longitude 73° E.) to Nashville, (Long. 87° W.) Accounts of it fill the scientific journals; accounts from Russia, from India, from Egypt and Algeria, from Constantinople and Rome, from numerous localities in France, England and America. The April number of the *American Journal of Science* contains an article from the pen of Prof. A. C. Twining, concerning this aurora. He regards it as similar to the display of October 24th and 25th, 1870, and believes that both these auroras are unlike anything of the kind ever witnessed before in this country. The zone of light which composed both, was inclined similarly to the ecliptic, in the former case 40°, in the latter 37°, and crossed it at nearly the same point. This zone cannot be cosmical, since it contained streamers, was part of the simultaneous northern aurora, and had a distinct parallax. Both displays are remarkable for their height, which was computed at 339 miles for the first, and—from more accurate data—at 352¼ miles for the last. The spectrum of the February aurora, observed in New Haven, at eight o'clock, showed distinctly the red line (of wave-length 623) the bright yellow line (of wave-length 557), and three other more refrangible and less sharply defined lines. The white streamers did not show the red line in their spectra. But the most surprising fact connected with this aurora, was its marked effect upon the magnetic needle. Professor Quimby of Dartmouth College has communicated a chart of these magnetic disturbances, to Professor Newton. From this it appears that the effect was first noticed as early as 10 A. M., and that from that time to 1 P. M., there were "three epochs of extreme and sudden deviation followed by as many of sudden change back again," the extreme fluctuation being 5° 40′ in a space of three hours! This observation of Professor Quimby's is confirmed by the results of European observers. Secchi observed a maximum deviation of 1° 11′ at Rome; Bertelli at Florence, of more than 1°; Crovaat Montpellier, of 50′ 42″ in 34 minutes; Airy at Greenwich, of nearly 2°; and Pictet at Cairo, Egypt, reports an extreme deviation of 10 to 11 degrees!

M. Tarry calls attention to the curious fact that the magnetic perturbations were felt by the telegraphic lines of Italy, France and America, either simultaneously or with only a few minutes interval; while the luminous phenomena were visible in Europe from 6 o'clock to 11, P.M., and in America from midnight to 6 A.M. (Greenwich time), a difference of six hours. Tacchini, observing at Palermo, noticed that a maximum of sun-spots occurred between February 2d and 5th. Early on the morning of the 5th, his observations showed that the solar surface was in an abnormal condition; the entire border was covered with magnificent flames, extending from the North Pole for 36 degrees on the eastern side and, on the western side, almost down to the equator. On this latter side was a splendid protuberance 2′40″ in height, and directed apparently toward the pole. The aurora of February 4th is generally admitted abroad to have been the finest ever seen in Europe, as in many respects, it was the most remarkable thus far recorded in America.

Wood Carving by Machinery.—There seems to be no limit to the adaptability of machinery to the arts, whether for manufacturing or decorative purposes. For machine carving several different processes have been devised; none of which appear to be so simple or really artistic as the one latest announced, the object which is to impress upon wood, by charring it, any design however elaborate. This process may be described substantially as follows:

This object is effected by engraving the design upon the face of hollow iron cylinders, the lines forming the design being left raised as in wood engraving. According to the kind of work required, the cylinders vary in size, from a diameter of a few inches to above two feet. The cylinder is fixed on an axis, and adjusted by means of screws and a lever to the proper distance from another cylinder, which is not engraved. To make this adjustment correctly and to secure the uniform rotation of the engraved cylinder, one end is closed, except the hole into which the axis is screwed and a few small holes to secure the free circulation of air. Two gas pipes are passed into the engraved cylinder; through one of these gas is supplied, and it is ignited, the jets being so placed that they play against the side of the cylinder. A second pipe, also perforated with holes in the sides, is supplied with air, by means of a rapidly revolving fan By this means a powerful blast is urged upon the gas flame, and a most energetic blow-pipe is formed. The gas flames, which played at first steadily against the side, now sweep with a roaring noise the interior of the cylinder, which notwithstanding the mass of metal, can be rapidly made red hot throughout by its action.

The cylinder being sufficiently hot a smooth board is pushed between the two cylinders, and subjected to considerable pressure. By this the design, which is upon the roller, is pressed and burnt into the timber, every line being faithfully and deeply marked. Plank after plank passes on through the rollers in steady order, so that in comparatively short time many hundred feet may be thus impressed with the pattern on the cylinder.

Where there is a continuous pattern, as for mouldings, the cylinder is small, and is, of course, with every revolution repeating itself. Where ornamented panels are required, the circumference of the cylinder is the length of the panel, and boards of the same length are regularly passed through, every one of them receiving a repetition of the pattern. The heat of the cylinder can be regulated with very great nicety, by turning the gas on or off, and by adjusting the supply of air to the blow-pipe.

When the board has passed through the charring operation, it passes to the workman, who scrapes it down over the entire surface, so as to bring out the lights, and produce the best effect. When this is accomplished, the surface is varnished or polished and the result is an ornamental panel or moulding of the greatest beauty, and of remarkable permanence.

White woods, as sycamore and lime, are employed for this work. It is easy also, by this process, to give to the less expensive varieties of wood the peculiar characteristics of the more expensive kinds; rosewood and walnut are very excellently imitated, and upon these again any pattern can be impressed.

The advantages of this process appear to be the facility and cheapness with which we can place on wood the most artistic designs; it is not of course applicable to the production of a single specimen; but, where we have to repeat the same design, with every repetition the price is reduced. The beautiful sepia, or chocolate color, received by the woods employed in the process are especially pleasing.

Any person who has whittled down a piece of charred, fine grained, white wood, will at once call to mind the beautiful and variegated shades that can be readily produced by cutting more or less deeply into the charred surface.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, APRIL 13, 1872.

TRINITY COLLEGE is finally fixed in Hartford for another long period at least. The deed conveying the college grounds to the city of Hartford has been drawn and signed, and the college has bound itself to remain in that city. The provisions of the document are: that the three main college buildings shall stand for five years, with the exception of the north building, known as Jarvis Hall, which may remain standing three years, unless the State capitol commissioners shall require its removal. The gymnasium building is to remain the property of the college, and also the statue of Bishop Brownell and the chapel bell and also the iron gate at the entrance to the chapel grounds. The right to take the present stone buildings and remove the materials is reserved to the college on payment of $1,000 to the city. The matter of the erection of new college buildings is disposed of in accordance with the vote of the city meeting, requiring that the purchase should only be made in consideration of building within the limits of the town of Hartford. The trustees give a bond to the amount of half a million dollars, pledging themselves to commence the erection of new buildings within five years. All the documents in the transaction will bear date of April 1st, 1872.

THE question how to bring the lower schools of the country into closer relations with the colleges and universities, is attracting attention especially in the West where there are a greater number of State universities. The idea seems to be that there should be such a connection between the educational institutions of various grades in the State, that a student may pass from one to the other without break, if he so desire, finishing with a diploma from a professional school.

In accordance with this idea, Hon. Samuel Fallows, superintendant of public instruction of the State of Wisconsin, has recently inaugurated and carried to a successful conclusion, measures which bring the State university into practical and vital relations with the public schools. The plan which has been decided upon is as follows: The graduates of the graded and high schools who have completed a course of study, prescribed by the Faculty of the university and have passed an examination satisfactory to the faculty, *at the school* from which they graduate, are entitled to enter the college classes for which they are prepared, or the sub-freshman class, *without further examination and without any charge for tuition.*

It is claimed that in consequence of this action it will now be possible to grade all the schools in the State upon a proper basis and secure the unity that has been so much needed. For twenty-five years the university has been isolated, standing as it were by itself, and it is believed that this plan will infuse new life into it, and at the same time exert a stimulating effect upon the public schools of the State. General Fallows is to be congratulated upon the success which has attended his efforts. The improvement of the educational systems of the State seems to be receiving his earnest attention. We rejoice that such a plan has been inaugurated. How it will work remains to be seen, but as evincing a desire to bring about a much needed connection between the lower schools and the colleges, it is worthy of great credit.

THE TRANSIT OF VENUS IN 1874.

Perhaps there is no datum of astronomical science which is of more fundamental importance than the sun's distance. It is the measuring unit by which space itself is gauged, and the plummet line used in sounding the celestial depths. A trifling error in this distance, when multiplied by the immense remoteness of a fixed star, becomes enormous; an error of one-hundredth of the whole causing a difference of 200,000 miles in the distance of even the nearest fixed star. It is of the utmost importance, therefore, not only to pure astronomy as a science, but also to applied astronomy — the art by which navigation has been made certain, and by which the measurements of coast surveys and the determinations of longitude have been made exact—that this distance be accurately determined.

But not only this. One of the most accurate of the methods in use for measuring the velocity of light is by noting the time it takes a light-ray to cross the earth's orbit, and then dividing the diameter of this orbit by this number. Jupiter's satellites are eclipsed by their primary about 8 minutes sooner when the earth and Jupiter are on the same side of the sun, than when they are on opposite sides; hence it takes light 8 minutes to cross the earth's orbit. Evidently then, upon the value determined for this orbit, depends the velocity of light. But this is one of the fundamental data of physical science. Optics deduces not only the theory of light itself from this datum, but founds upon it many of those principles which, having been applied in practical life, have been the means of advancing our civilization and increasing our wealth.

It must now be clear that, even considered in a purely economical point of view, the precise determination of the sun's distance is a necessity of science. Now, of the four known methods of making this measurement, the most promising is that based on a careful determination of the position of Venus on the sun's disk, during a transit of that planet, by two or more observers stationed widely apart on the earth's surface. The parallax or angular distance of the planet's position as thus measured, gives data by which the solar distance may be calculated. But these transits of Venus are very rare occurrences. The last one took place in 1769; and another as favorable will not occur for another century. Two, however, are to take place before long, one in 1874 the other in 1882. Though unfavorable as regards certain methods of measurement, they are favorable for others; so that, varying their methods, astronomers are planning the most delicate observations on the transit of 1874. It may here be observed that the importance of new measurements appears from the fact that the best determinations thus far made differ by three or four per cent of the whole; a large quantity when applied to celestial distances.

This importance has been already recognized more or less fully by all the civilized nations of Europe. As long ago as 1857, England began to move in the matter. Experiments were made and plans were proposed and tested, for obtaining the best results; and in 1869, £15,500 were granted by the Government, the Stations were selected, and the Expeditions arranged. Prussia has planned a series of observations with great liberality; and a commission, made up of her best astronomers, has the matter now in charge. France moved in the matter before the war which has resulted so disastrously. Since its close the preparations have been continued and are to be liberally sustained by the Government. But until within a fortnight—excepting suggestions from several astronomers—nothing has been done in this country in the way of preparation to observe this transit. Early in the present month a memorial was presented to a Committee of Congress, signed by Professor Henry, by the men of science connected with the Smithsonian Institution, and by the astronomers of the Naval Observatory, urging that an appropriation of $150,000 be made to enable them to make this rare opportunity available to science. Their proposition is to use the navy for this purpose, sending such vessels as can be spared, equipped with the necessary observers and instruments, to such points in the Indian and Pacific Oceans as shall seem most desirable. It is already late to begin these preparations. Men must be trained, methods—especially the photographic—must be tested, instruments must be constructed, and equipments provided. Concerted observations must also be agreed upon and duties carefully assigned to each individual of the observing parties. All this requires time; but with proper means given by Congress, it may be done and done satisfactorily. In this way, a well-won reputation for liberality to science, acquired by the appropriations made in recent years for observing solar eclipses, which have yielded results of great value to science, may be sustained. A rumor comes from Washington, however, that the committee are to set themselves up as judges of the character and cost of such expeditions; are to decide, in face of the opinion of the experienced astronomers who have drawn up the memorial, how much creditable observations will cost. And so, they purpose to recommend an appropriation of only $50,000, or one-third the amount asked. This is a procedure unique as regards governmental action in Europe, concerning this transit. What men of science thought necessary, has been granted without question. Let us hope that our Government will not be less liberal, but will grant the entire amount asked.

THE NEW MEMBERS OF THE CORPORATION OF YALE COLLEGE.

The undersigned begs leave, through the columns of the COLLEGE COURANT, to offer to his fellow-graduates three or four suggestions respecting the nomination and election of the new graduate members of the Corporation. They are suggestions which, as he believes, will commend themselves as wise and suitable, and as they have not, as yet, been presented by any one, he thinks the offering of them at this time may be serviceable to the best interests of the College. They are the following:

First, That no person should be nominated for this office, or elected to it, who is a Professor *in any department of the College itself.* The Professors and Corporation are distinct bodies, with entirely different functions —the former being appointed by and responsible to the latter. It would seem manifestly inappropriate that a portion of the Professors should be their own employers and irresponsible, or that they should be entrusted with power over their associates. The mere presentation of this point is sufficient, without argument; and we understand that it has been so fully appreciated by the Corporation as now existing, that, in their arrangements respecting the choice of the new members, they have made provision against the admission of any such person.

Secondly, That no person should be nominated for this office, or elected to it, who is a Professor *in any other College, Scientific, Theological, Law or Medical School, in the country.* The graduates of this college, if they reflect upon the matter, can scarcely fail to realize the unsuitableness of any such choice. The officers of other institutions—having their own interests so largely involved in those institutions, and representing oftentimes the views and theories of a limited neighborhood—should not be introduced into the government of this college or any of its parts. They belong to other spheres. They may be, even as partisans, devoted to their own systems or their own schools. At all events, their first allegiance is to them. If the Professors of Yale itself are excluded from the governing board of the University, surely they ought not to be placed, in any measure, under the control of the Professors of other and rival institutions. It would be a subjection which the graduates of Yale ought not to force, by any action of theirs, on their own officers of instruction, and which we do

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not believe they would be willing to force upon them, after giving the matter their serious thought.

Thirdly, That the members to be elected should be persons well known to the graduates, both as men of wisdom and as warm friends of the College. They ought, also, it would seem, to be persons whose homes are not so remote from the institution that they cannot attend the meetings of the Corporation, however frequently they may be held. Yale College—located as it is in New England—cannot be wisely administered by persons, however eminent or capable, who reside in California, or even in Missouri. The trustees of a college ought to live in its neighborhood,—within a distance of one or two days' journeying, at the farthest. If they do not, they must be often absent, when their presence is needed, and must, therefore, be comparatively useless to the college.

Fourthly, That the formation of cliques and parties in the interest of any particular section, or any particular man of particular ideas, should be especially avoided. The formation of such cliques ought, indeed, to be frowned upon by all true hearted graduates. If we are to have political rings in this matter, or wire-pulling and chicanery, the change which has been made in the constitution of the Corporation will be the greatest calamity which has ever befallen the College. Let us forget all partisanship and all differences in our common love for Yale, and let us approach this most serious and important of all duties, which belong to us as graduates, with the single desire to bear the college onward in the best and noblest way.

T. DWIGHT.

Yale College, April 9, 1872.

THE ALUMNI MEMBERS OF THE CORPORATION.

To the Editor of The Courant:—SIR: As it seems to be in order to suggest names for the places to be filled by the alumni of Yale College, in the Corporation, I beg the privilege of offering a list. Nominations, it is understood, are to be sent to Mr. Dexter before the 1st of May. Let me premise that what we need, in my judgment, is not young men or old men, men of one profession or another, but *wise* men, and such as are disinterested, and devoted to the college. These are the three cardinal qualifications. They are, for instance, what Jefferson proposed to require in candidates for public office, when he proposed to ask only, "Is he honest, is he capable, is he faithful to the Constitution?" The names which I suggest are:

William A. Buckingham,	Henry Farnam,
William M. Evarts,	William Strong,
Alphonso Taft,	William B. Washburne.

These gentlemen represent no particular sect or interest. Gov. Buckingham and Mr. Farnam are experienced men of business, tried friends and benefactors of the college. Mr. Evarts ('37), is the most distinguished and most suitable person to represent the New York alumni. Judge Strong ('28), of Philadelphia, and Judge Taft ('33), of Cincinnati, are men of eminent judicial ability and reputation. Gov. Washburn, of Massachusetts, of the class of 1844, would form a valuable man in the counsels of the institution. ALUMNUS.

LITERARY.

Periodicals.—*The Contemporary Review* for March, just issued by J. B. Lippincott & Co., has a second article on Henry Ward Beecher, "by Rev. H. R. Haweis," and also "The English Land Question" by Lord Edmond Fitzmaurice; "Dean Stanley in Edinburgh," by A. Taylor Innes; "Science and Immortality," by Rev. T. W. Fowle; "The State: The Government: and Scientific Morality," by Henry Holbeach; "John Hookham Frere," by Rev. James Davis, and "Social Forces of the Hour," by Rev. J. M. Capes.

The Saint Paul's Magazine for March, also published in this country, by the same house, opens with Part III of "Septimius," by Hawthorne; and has in addition, "Two Pen and Ink Sketches," by the author of "Ginx Baby;" "People and People's Looks," by Henry Holbeach; "The False Demetrius," by H. Lawrenny; "Colonel Shark," by the author of "St. Abe and his Seven Wives;" "Tennyson's Charm," by Robert Buchanan; Chapters VII and VIII of "Off the Skelligs," by Jean Ingelow, and "The Law and the Lyre," by Mathew Browne.

The New England Historical and Geneological Register, and Antiquarian Journal, the quarterly magazine of the New England Historic, Genealogical Society for April, is a well filled and interesting number. It has a portrait and sketch of "Commodore Samuel Tucker," communicated by John H. Sheppard; an article on "The New Hampshire Gazette," said to be the oldest newspaper in America, illustrated with a fac-simile of the first newspaper printed in New Hampshire, and a picture of the first printing office in that state; communicated by Frank W. Miller, Esq. In addition to these there are articles on "Atkinson Academy, N. H.," by Wm. C. Todd, Esq.; "Rutland County Insurrection," by Rev. F. W. Holland; a continuation of "Edward Oxnard's Journal;" a conclusion of Prof. D. D. Slade's article on "The Bromfield Family;" "The New Masonic Temple," by John H. Sheppard; "The Fight at Diamond Island," (Lake George) by B. F. DeCosta; a continuation of the "Record Book of First Church, Charlestown, Mass.," by James F. Hunnewell, and "Correspondence Relative to the 'History of Massachusetts Bay,' between its author, Gov. Thos. Hutchinson and Rev. Ezra Stiles," by Hon. Wm. A. Saunders. The proceedings of the Annual meeting of the Society are also given, and there are "Notes and Queries," and an article by Thomas Smyth, on "The Family of Ralph Smyth, of Hingham, Mass.

Loomis Musical and Masonic Journal for April, besides an interesting letter from Boston, and other reading matter interesting to musicians and masons, has a four page piece of music entitled "Fidelity."

J. Sabin & Son's American *Bibliopolist* for April has its usual correspondence, notes and inquiries, lists of books, rare and curious, etc., and a number of pages of "The Tales and Jests of Mr. Hugh Peters."

Mabel Lee.—This novel is written in a clear and easy style. The scene is laid amid the golden sunlight, the twitter of full-throated birds, the magolia blossoms, the tender beauty of luxuriant, tropical South Carolina. The heroine is a lady, born only to be loved, without dispute the belle of high bred, aristocratic, southern society. The hero is a beau-ideal of manly worth, a very encyclopædia of perfections. Taken all together, the persons and the places, and they form a picture as beautiful and as ideal, too, as many a romance of fairy land.

*Mabel Lee.** A Novel. By the Author of "Valerie Aylmer," "Morton House," etc. With illustrations. New York: D. Appleton & Co., 549 and 551 Broadway. 1872.

Bits of Travel.*—As a general rule travels seem to us the most tedious and uninteresting reading that can very well be crowded between the covers of a book. They almost invariably contain the precise information you do not wish to know, and tell it in a way that imparts even an additional dryness to the dryness of the facts themselves. But this is most decidedly an exception to the general run of works of this kind. It has all the sprightliness and interest of the best sort of confidential letter-writing combined with the charm of the best sort of description. These bits of travels are in Germany, Italy and England, and the chapter entitled "A Sunday Morning in Venice" will give one in a small compass a good idea of the peculiar mannerism of the book, though there are others full as good, if not better. Altogether, we do not know of a more delightful work to be set aside for summer reading.

* *Bits of Travel.* By H. H. Boston: J. R. Osgood & Co. 1872.

Word Analysis.*—The design of this little volume is to occupy a part of the time now spent upon English Grammar with a critical study of words and their uses. The first part is devoted to words derived from English primitives, the second to words of Greek or Latin origin. The English prefixes and sufixes are given and their various shades of meaning illustrated by numerous examples.

These are followed by a chapter on English derivatives *e. g.*, king, kingly, kingdom, kingship, kingling; care being taken in each case to point out the suffix which modifies the meaning of the primitives. This portion of the work is concluded by a chapter on Anglo-Saxon derivation, which puts in an accessible form information otherwise hard to obtain. The plan of the second part resembles that of the first, concluding with a valuable exercise on synonyms. Much as we value the work for itself we value it still more for the taste it cultivates and the future it opens to view when we shall have books which will take a Sanscrit root and show its progress through the centuries and under changing forms its presence in a score of modern tongues.

* *Swinton's Graded Word Book. Word Analysis.* A graded class-book of English derivative words with practical exercises in spelling, analyzing, defining synonyms and the use of words; by William Swinton, A. M. Professor of the English language in the University of California, and author of "Rambles among Words," Condensed History of the United States, etc., etc. New York: Ivison, Blakeman, Taylor & Co., 138 and 140 Grand street 1872.

The Art of Teaching School*—The clean printing of this book reflects credit upon its publishers; its energetic style no less upon the author. The subjects studied in our common schools, and the manner of pursuing them all brought under discussion. After laying down the premise, that schools supported by a public tax should meet the public needs, the author proceeds to rule out mental arithmetic and the higher arithmetics as "the mere inventions of over zealous mathematicians" and to hint that it is more than doubtful whether any one in youth ever acquired through grammar books, the ability to speak and write the English language with propriety. During a portion of the time now exhausted in these subtleties, he recommends a course of object teaching in Botany, Geology, and the natural sciences as more profitable to the toilers who pay the teacher, than the power to analyze the contorted sentences of Milton, or "solve the complicated problems of our higher arithmetics." The last part of the work contains hints on methods of teaching the common studies of a school which are so good that they make one wish for more. The author does not leave his statements as mere assertions, but supports them with a weight of argument which renders them particularly worthy the attention of all dissentients.

* *The Art of Teaching School.* A manual of suggestions for the use of teachers and school authorities, by J. R. Sypher. Author of "History of Pennsylvania" "History of New Jersey" "American Popular Speaker." Philadelphia: J. M. Stoddart & Co., 1872.

Music and Morals* is a title which is not very significant of the actual contents of the volume. The relation of art to morals is indeed discussed in an observational way; but a few pages suffice for what the author has to say upon this subject. The volume is made up into four books entitled respectively, Philosophical, Biographical, Instrumental, and Critical.

The author makes music to be the creation of man. While the painter finds his art lying on the surface of the world, that of the musician lies beneath. The harmonies of nature are purely metaphorical, there is no music in nature; neither melody nor harmony.

Music is a modern art, only about four hundred years old. It is the youngest of the arts; yet the opinion is expressed that the time is not far distant when music

* *Music and Morals*, by the Rev. H. R. Haweis, M. A. New York: Harper & Brothers. 1872, 12mo, pp. 478.

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will stand revealed perchance as the mightiest of the arts.

It has been often said to be the language of the emotions; but how it both expresses and excites emotion has never yet been explained. This the author attempts, and thinks that an analysis of emotion and of sound, will show that they contain exactly the same properties, and consequently not only establish points of resemblance between the two, but bring us to the common ground upon which emotion becomes wedded to external sound. His analysis gives as such common properties the five following: (1) elation and depression; (2) velocity; (3) intensity; (4) vanity; (5) form. As a vehicle for pure emotion, color is regarded as the possible rival to sound. But we have no color-art as yet. This, however, is deemed to be possible; indeed the prediction is hazarded that it is certain to be. All that is wanting, it is conceived, is a system of color-notation and an appropriate art-mechanism for rendering such notation into real waves of color.

Book II. gives a rapid history of modern music in the form of biographical sketches. Handel, Gluck, Haydn, Schubert, Chapin, Mozart, Beethoven, and Mendelssohn are noticed at length. Nearly one half of the volume is devoted to these historical notices.

Book III. describes and gives the histories of violins, piano-fortes, bells, and carillons.

Book IV. exhibits the state of music in England. The amount is anything but flattering; it is intended to be somewhat satirical.

The book discovers little science. It is in truth but a collection of very loosly selected essays on the general subject of music, such as an ameteur might write for a newspaper. The cultivated taste which marks them will make them entertaining, if not very suggestive reading to those who are fond of this great art.

The Life and Times of the Rev. John Wesley.* — This is the most complete, and will doubtless prove the most satisfactory biography of Wesley yet written. It is the result of diligent research and much pains taking, extending through twenty of the best years of a man's life. Mr. Tryeman, the biographer, has been living amid favorable circumstances, to do this which has been to him a work of love. He writes *con amore*, yet free from the blinding influence of prejudice. It is be to expected that he would have his own predilections; if he did not have them, his work would not be worthy of public notice; but the severest criticism will fail, we think, to detect any mis-coloring of essential facts, however it may estimate personal opinion of the man or events in his life.

Preceeding this book, there have been—in addition to almost innumerable sketches and brief histories, six lives of Wesley written *in extenso*, and given to the world, each at the time of its publication, claiming to be a standard work. The first was written by a Mr. Hampson, and was ready for the press the very year Mr. Wesley died. It was virtually a caricature of the man and the church he founded, written by a bitter opponent. This gave occasion for the too hastily prepared work of Coke and Moore, published in the year following, which, according to its merits, was of limited circulation and short lived. Equally marked defects characterised the book, claiming to be a life of Wesley, written by Mr. Whitehead, and printed in 1796. It partook so much of the rancorous contentions of the times, and was so highly tinged with partisian prejudice, that it fell well nigh dead from the press. Moore, in greater leisure and with more carefulness, brought out in the year 1824, an extensive volume of reliable data, respecting Wesley, which was a valuable treasury of facts for the subsequent writers. His work, however, was more a compendium, than a Biography. These publications all passed out of print, on the appearing of the two standard biographies, one by Southey, and the other by Watson. These, published one in 1820 the other 1831, have continued for nearly half a Century the best lives of this celebrated divine that the world has had. They are defective in many respects. That by Southey distinguished, as all his writings are by literary attractions is unreliable on account of its many errors and unintentional mistakes, in date and chronology. That by Watson is not sufficiently full and extended to meet the demand for general circulation, It is a fact true to history, as stated by Tryeman—"that a life of Wesley, worthy of the man, is a desideratum." That the present work supplies such a desideratum will be readily thought by many, as they read the book, while many others will think that which is destined to be the standard Life in coming generations has not yet been written.

This work by Tyerman undoubtedly surpasses all the others referred to, as a biography. If one is looking for the charms of a finished literary production, he will be best pleased with Southey's book. If he desires a historical defence of the early Methodist church and its founder, he will have resort to the Life written by Coke and Moore. If he inquires for what has been not inaptly termed the philosophy of Methodism, he will find more of that in Watson. But if he would see a portraiture of the great Founder and Apostle of Methodism, he will find it no where more faithfully drawn, than in the volume of Tryeman.

Fortunately, the original documents and sources of information, for an authorized biographer of Wesley, are many. He was a voluminous writer, carried on throughout a ministry of more than sixty years an extensive correspondence, and at the same time kept a private diary, remarkable for its faithful record of events, and delineations of personal experience. These are sufficient when in the hands of a skillful writer, to furnish to the world that highest style of a written Life —an Autobiography. This is one of the distinguishing features of the work before us. Mr. Tryeman is contented to let Wesley speak for himself, and to let others sit in judgement on his sayings and doings.

As a literary production, the book is not without its defects. It is not written in the highest style of historic composition. The grouping of incidents is not always the most happy, or the description of scenes always the most life-like. Many things are recorded which do not seem necessary to fill out the likeness of the man, nor are they of sufficient value, as items of history, to claim a place in the Life or Times of a great historic personage. These, and all like minor defects pass, unnoticed by the general reader, in view of the valuable stores of information opened to him in this volume.

Mr. Tyerman exhibits in an eminent degree, the chief excellencies of a biographical writer. He correctly estimates the mental and moral status of the person of whom he writes. Wesley is not represented in these pages, as the most learned divine—the most logical metaphysician, or elegant pulpit orator of his age, but in that light in which he is more appreciated by each succeeding generation, viz: that of a church reformer. A theological polemic, he was not wanting in that logical acumen necessary to construct a system of divinity in contrast, as to many of its features, with existing forms of belief. A preacher, driven from the churches and cathedrals of England, he developed a style of popular address, that gave him unexampled control over the masses. But his position in history is more fully determined by that higher and more rare talent of administration, or organization which he exhibited in such commanding view. In this respect he is said to have combined the genius of Richelieu and Loyola. Methodism, its distinctive doctrines, the peculiarities of its economy, and measurably, its success in an experiment of a hundred years, is the living and constantly rising monument of that talent.

Many critics will hesitate to give Wesley, and Wesley's ancestors the rank in general history, which Mr. Tryeman claims for them. He does not hesitate to claim for the latter, "the *greatest fact in the history of* the church of Christ." This will be regarded, by many, as the hasty remarks of a sympathizing co-religionist, yet the success of Methodism in the first century of its history, is not disparaged by comparison with the rapid spread of primitive Christianity, the Lutheran Reformation—the great awakening under Edwards, or any other marked epoch of the Christian era.

Only one volume of this work, has as yet, been published in this country, with the promise, however, that the others are soon to follow. The one that is published, is gotten up in the good taste, for which the establishment of the Harper's is so justly distinguished. It has a likeness of Wesley, at the age of forty years, which is said to be the first likeness taken of him. The entire works—three volumes, is published in England. This edition has three likenesses of Wesley, one accompaning each volume, the first taken when forty years old, the next, when he was sixty-three, and the other, when at the rich old age of eighty-five. It is to be hoped the American reprint of this work, will have all these engravings. They constitute a biography in themselves. One of the characteristic features of Wesley's life, is the manner in which he retained his vigor of mind, and even sprightliness of youth, on to an extreme old age. These portraits proclaim this truth. The gleamings of an active mind, shone out with noticeable briliancy, from that care-worn face of sixty-three, and with scarcely any perceptable dimness, from the wasted features of the old man of eighty-five years.

This book is more than a valuable almost indispensable accession to the literature of the Methodist Church; it is a part of the theological treasures of the age. This first volume may not gain a general circulation, for the reading public; becomes suspicious of books published in successive numbers, and generally prefer to wait till they can see what they are buying. A somewhat extensive examination of the other volumes published in London, enables me to assure the reader that there is no falling off of interest in the volumes, yet to be published, either in the matter they contain, or the manner of its presentation.

The Life and Times of Rev, John Wesley, M. A. Founder of the Methodists. By the Rev. L. Tyerman, Author of the Life of Rev. S. Wesley, etc. Harper & Bros., New York, 1872.

BOOKS RECEIVED.

The Art of Teaching School. By J. R. Sypher. Philidelphia: J. M. Stoddart & Co. 734 Sansom street. 1872.

Legends of the Patriarchs and Prophets. By S. Baring Gould. N. Y.: Holt & Williams. 1872. $2.00.

Mountaineering in the Sierra Nevada. By Clarence King. Boston: J. R. Osgood & Co. 1872. $2.50.

Yesterdays with Authors. By James T. Field. Boston: J. R. Osgood & Co. 1872. $2.50.

Kate Beaumont. By J. W. DeForest. Boston: J. R. Osgood & Co. 1872. $1.25.

Passages from French and Italian Note Books. Hawthorne. 2 vols. Boston: J. R. Osgood & Co. 1872. $4.00.

Barnes's Notes. 2 vols. New York: Harper & Bros. Franklin square. 1872.

Poor Miss Finch. By Wilkie Collins. New York Harper & Bros. Franklin square. 1872. $1.50.

The Lovells of Arden. By M. E. Braddon. New York: Harper & Bros. Franklin square. 1872. 75c.

Righted at Last. New York: D. Appleton & Co. 1872. $1.00.

Mabel Lee. By the author of "Valerie Aylmer," etc. New York: D. Appleton & Co. 1872. $1.00.

Lucretius on the Nature of Things. Translated into English verse by F. C. Johnson. New York: D. W. C. Lent. 1872. $2.50.

Three Centuries of English Literature. By Charles D. Yonge. New York: D. Appleton & Co. 1872.

Christ in Modern Life. By Rev. Stopford A. Brooks, M.A. N. Y.: D. Appleton & Co. 1872.

The World before the Deluge. By Louis Figuer. New York: D. Appleton & Co. 1872.

Man and his Dwelling Place. By James Hinton. New York: D. Appleton & Co. 1872.

A Manual of the Anatomy of Vertebrated Animals. By Thomas H. Huxley, LL.D. New York: D. Appleton & Co. 1872.

Twenty Years Ago. Edited by the author of "John Halifax." New York: Harper & Bros. Franklin square. 1872.

Instinct in Animals. By P. A. Chadbourne, LL.D. New York: G. P. Putnam & Sons. 1872.

Music and Morals. By Rev. H. R. Haweis, M.A. New York: Harper & Bros. Franklin square. 1872.

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Oliver Twist. Household edition Dickens' Works. New York: Harper & Bros. Franklin square. 1872.

The Complete Phonographer. By James E. Munson. New York: Harper & Bros. Franklin square. 1872.

Cecil's Tryst. By the author of "Bred in the Bone," etc., New York: Harper & Bros. 1872.

A Crown from the Spear. By the author of "Woven of Many Threads." Boston: J. R. Osgood & Co. 1872. $1.25.

The Best Reading. G. P. Putnam & Sons, New York. 1872. 90 cts.

Around the World. By E. D. G. Prime. New York: Harper & Bros. Franklin square. 1872.

Barry's Fruit Garden. By P. Barry, Illustrated. New York: O. Judd & Co. 1872. $2.50.

Sanford's Primary Analytical Arithmetic. By Shelton P. Sanford. Philadelphia: J. B. Lippincott & Co. 1872.

The Odyssey of Homer. Vol. II. Translated by Wm. Cullen Bryant. Boston: J. R. Osgood & Co. 1872.

Life of Henry Dunster, first president of Harvard College. By Rev. Jeremiah Chaplin, D.D. Boston: J. R. Osgood & Co. 1872. $1.50.

The Life and Times of John Wesley. Vol. II. By Rev. L. Tyerman. New York: Harper & Bros. Franklin square. 1872.

The Life and Times of Lord Brougham. Vol. III. Written by himself. New York: Harper & Bros. Franklin square. 1872.

Maud Mohan. By Annie Thomas. New York: Harper & Bros. Franklin square. 1872.

COLLEGE RECORD.

Bowdoin College, (Brunswick, Me.)—The funeral of Professor Upham took place in Brunswick, Thursday, April 4th, his remains having been brought from New York to rest where the labor of his life was performed. A large concourse of citizens and friends gathered to pay their last respects, and a brief and exceedingly appropriate address was delivered by Professor Packard.

Denison University, (Granville, O.)—The examinations of the Winter term have just closed (April 3). These occasions are sometimes pronounced a bore to spectators and a bugbear to the students examined. The only party whose happiness seems to be promoted is the professor. But this judgment would not apply to the present case. The attendance and apparent satisfaction and enjoyment of numerous visitors is evidence that examinations even may rise above the level of perfunctory duties. The presence of numbers of ladies was especially agreeable to the faculty and inspiring to the students. Wholesale praise cannot be truthfully bestowed upon the latter however, for, as upon every such occasion, some were very far from doing justice to themselves or to the institutiou. But upon the whole, there was evidence that a good average term's work had been faithfully done. The Juniors in Chemistry having spent the term in laboratory practice, performed experiments and explained the results to the committee and visitors, writing out the reactions in full when required. This method of examination, though so much of a novelty, was pronounced a decided success, Another agreeable innovation was the spending a short time after prayers each morning in rhetorical exercises selected from the essays and orations delivered during the term.

The whole number of students in attendance this year is 191, a greater number than for any previous year. This is partly in consequence of the closing of Franklin College; but more because of additional buildings, apparatus and instructors, and general improvement in the character of the instruction. *

Michigan University, (Ann Arbor, Mich.)—At the recent meeting of the board of regents of this institution, besides signing the diplomas etc., of the medical class, a resolution was unanimously adopted accepting the portrait of Randolph Rogers, recently presented by Hon. C. C. Trowbridge, of Detroit, and directing it to be permanently deposited in the Hall of Art. A report upon a department of Technology, was also referred to a committee for publication. The degree of Master of Science was conferred upon Mr. H. W. Hubbard, a graduate of the university in 1866, and now connected with Fisk University, Tennessee. Professor Merriman was allowed leave of absence for the remainder of the quarter in order to acquaint himself with new methods of instruction in physical laboratories. John M. Wheeler was elected treasurer. He will enter upon his duties at the close of the present fiscal year. A resolution was offered that the following appropriations be made from the General fund, to be drawn as needed: mathematical apparatus, $50.00; contingent expenses, $1,000.00; fuel and lights, $300.00; insurance, $300.00; grounds, $200.00. Dr. Sager Dean, of the Medical Faculty, presented a report in which it was stated that 350 students—35 more than last year—were present during the past session. Thirty-five of these students or more than double the number last year were ladies. It was recommended that Dr. Frothingham, lecturer on ophthalmology, be appointed professor of ophthalmic surgery, and that the duties of the chair of aural surgery be added to this chair. The report expressed approval of the hospital and asked for more ample accommodations. A modification of the course of medical study was recommended which would allow the students to elect one of two courses offered by the institution. These courses may be described as follows: Two years private study in the office of some reputable practitioner, and two six months terms of lectures; or two nine months' terms of lectures leaving the period of private study optional.

Indiana State University, (Bloomington, Ind.)—Some items regarding the graduating exercises in the Medical and Law Departments of the Indiana State University, may possess interest for some readers of THE COLLEGE COURANT. The Medical Department is established at Indianapolis, chiefly for the advantage of greater facility in visiting hospitals and in obtaining subjects for dissection; also because there being no charge for tuition, each student only paying as in the Law and Literary Departments, a small contingent fee, it was easier to find in a large city the necessary number of able instructors in the different chairs, who were willing to give their labor gratuitously, at least for the present, while practising their profession in the city.

On the 29th of February last twenty-six young men, chiefly from Indiana, received their diplomas from the hand of the President of the Trustees of the Medical Department, Dr. Mears, of Indianapolis, after the valedictory on behalf of the Faculty had been delivered by Dr. L. D. Waterman. Several members from the Board of Trustees of the Literary Department were also present. The exercises were closed by an interesting address from the Rev. Cyrus Nutt, D.D., President of the University, marking out the path for success in their profession.

On Wednesday, March 27th, twenty-four law students who had been in attendance since October, 1871, representing chiefly Indiana, but also being in part from three other States, Ohio, Kentucky and Illinois, received diplomas from the President of the University. Before the diplomas were conferred, an address was delivered by Judge Perkins, one of the law professors. On Tuesday evening, Judge Sam'l Buskirk of the Supreme Court of Indiana, delivered an eloquent lecture in which he touched on temperance and divorce.

About 150 young men and 50 young ladies have been in attendance on the Literary Department during the present collegiate year.

As before remarked, no charge is made for tuition in any of the three departments of this university, the Legislature having liberally added to its former endowment. *

Albany Medical College, (Albany, N. Y.)—This institution was founded by Drs. March and Armsby thirty-four years ago. These gentlemen were from Sutton, Worcester Co., Mass. Dr. March emigrated to Albany in 1820, and Dr. Armsby ten years later. Albany though one of the oldest cities of the union, had a population of only 15,000, in 1820. Dr. March commenced a private school of anatomy in Albany, and was afterwards associated with the distinguished Professors Tully and Bronson, of Yale College. Some years later, Drs. March and Armsby established a school of anatomy and surgery, which was the beginning of the Albany Medical College. At that time, the medical schools of New York city and of the western district of New York were powerful, and opposed the new institution with all the influence they could command. But the zeal and energy of its founders overcame all opposition, and it soon became one of the most successful and prosperous institutions in the state. Among its professors may be named some of the most illustrious men of our profession, Theodric Romeyn Beck, Ebenezer Emmons, Louis C Beck, David M. Reese, James McNaughton, Gunning S. Bedford, Alden March, Howard Townsend, and others whose name are household words in Albany and throughout the state. The establishment of the college seemed to give an impulse to educational enterprise in Albany. The Dudley Observatory; and the Albany Hospital owe their origin and success to the founders of the Medical College. These institutions are now in the highest degree prosperous, and enjoy the confidence and support of the community and of the public.

Dr. McNaughton is probably the oldest teacher of medicine now living. He graduated in the University of Edinburgh in 1816, came to this country soon after, and engaged in the practice of his profession. He has been professor and lecturer, *fifty two years*, without losing a single week of duty during this long period of service. And now, at the age of nearly 80 years, is hale, hearty, and actively engaged in practice.

Dr. Armsby has been engaged in teaching almost forty years. First as Professor of anatomy and physiology in the Vermont Academy of Medicine; and as Professor of anatomy and surgery in the Albany Medical College since its foundation. Professors Peaslee and Clymn have been many years distinguished as authors and teachers; and Professors Seymour and Perkins had both acquired well established reputations, before their connection with this college. The younger professors, who are all residents of Albany, are well established in practice, and have evinced acknowledged ability as teachers.

Madison University, (Hamilton, N. Y.)—The following in reference to this institution, which is frequently confounded with Hamilton College at Clinton, N. Y., is taken from a long article in the *Utica Morning Herald*, which gives besides, an account of the Lewis Prize Exhibition, recently held. Madison University was chartered March 26, 1846; but, dating from May, 1820, when "The Hamilton Literary and Theological Seminary" was formally opened with Haskall and Kendrick as its first professors, it has reached the fifty-second year of its history. Its present faculty is: Ebenezer Dodge, D.D., LL.D., President, and Professor of Metaphysics; Philetus B. Spear, D.D., Professor of the Hebrew Language; Alexander M. Beebe, D.D., Professor of Logic; Lucien M. Osborn, A.M., Professor of the Natural Sciences; N. Lloyd Andrews, A.M., Professor of the Greek Language and Literature; John James Lewis, A.M., Professor of Civil History, English Literature, and Oratory; Edward Judson, A.M., Professor of the Latin and the Modern Languages; Albert S. Bickmore, A.M., Ph.D., Professor of Natural History; H. Harvey, D.D., Bleecker Professor of Moral Philosophy; James M. Taylor, A.M., Professor of Mathematics, and Principal of the Grammar School.

The University curriculum embraces four courses, namely, the theological, the classical, the scientific, and the commercial. There are now in attendance 187 students, of whom nine-tenths are preparing for the ministry, and many of them for missionary work. Among the latter are four Karens, who, on the completion of their course, will return home, to labor for the salvation of their own people.

The architectural features of the University consist principally of three large stone structures, ranged in a row, and fronting nearly north. The eastern building contains two academic recitation rooms, the rooms of the Delphic and Ionic (literary) societies, and a portion of the dormitories. In the middle building are the remaining dormitories, another recitation room and the museum of the institution. This museum contains, among many other interesting collections, one of the

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finest collections of stuffed birds and birds' eggs in the country. It is valued at $13,000, and was secured through the exertions of Prof. Bickmore. The collection embraces a complete list of North American birds, about 700 European birds, and a large variety of the birds of the tropics. The west building is the largest of the three, and was not erected until 1861. It contains on the first floor, eight lecture rooms; on the sec ond story, the library, mathematical room and chapel, while the whole of the third floor is occupied by the Alumni Hall. The college library contains about 7,754 volumes, which, added to those of the literary and thelogical societies, amount to 10,454 volumes.

The remaining buildings on the college grounds consist of the president and professors' houses, a gymnasium, and a boarding hall. In addition to these, another large building is to be erected, to be known as the Academy, and to be used for the especial and sole accommodation of the grammar school connected with the institution. It is claimed that the building will be second to none of its kind in the State.

In addition to the two literary societies and the society for religious inquiry, there are established at the institution, branches of the two college fraternities, known as Delta Kappa Epsilon (secret) and the Delta Upsilon (anti secret). These societies have their lodge rooms down town. The invested funds of the University amount to $260,000. Twenty-two prizes have been established during the past three years, embracing three grammar school, two classical, six essay and six declamation prizes. Mr. W. H. Montgomery, of Rochester, has also provided a fund of one thousand dollars, the annual interest of which is awarded in four prizes of $25, $20, $15, and $10 to the successful competitors of twelve Seniors who, either in their Freshman, Sophomore, or Junior year, have taken part in the annual Prize Declamation.

Yale College, (New Haven, Conn.)—The spring vacation of two weeks began last Tuesday. Most of the students have gone home, and the College grounds and the streets of the city have an unusual quiet. Some of the students, however, are staying to work on their pieces, for the different prize contests, which come off next term, and consequently the college rooms are not all deserted. The grounds and buildings are undergoing their spring cleaning, and are begining to wear a much neater aspect. The grass on the campus under the elms has begun to start, and with the approach of the foliage on the trees, and the heat of the summer will become the same delightful lounging place in a hot afternoon, that has enticed from their lessons so many students in times past.

THE ART SCHOOL.

The first exhibition of the work of the Art School, took place last Friday and Saturday afternoons. The exhibition consisted of a display in the South gallery of the Art Building, of the work of the students in drawing. The walls of this gallery were covered with free hand drawings, executed by the students of the school. They were significant not so much for their beauty as from the fact that they gave tangible indications that the study of Art is really being prosecuted under regular and competent masters in connection with the University. The term began about the first of November and ended on the first of April, with a recess of two weeks at the holidays. During this period about seventy-five students have taken advantage of the opportunities offered by their department. Quite a number of these students belong to the Sheffield Scientific School, where drawing is now a part of the regular curriculum, some of them are students in the Art School itself, and a few belong to the Academical department. In connection with this exhibition Professor Niemeyer gave a lecture on Saturday evening, on the relation of drawing to scientific pursuits, and introduced some statements in reference to the condition of the School. Some portions of this lecture we hope to lay before our readers next week.

In reference to the condition of the school it may be said that it has a fine building free from debt, and that three of its chairs are filled by active energetic professors who are determined to carry the school forward to success. These chairs and their occupants are: Painting, in charge of Prof. John F. Weir; History of Art, in charge of Prof. D. Cady Eaton, and Drawing, in charge of Prof. John H. Niemeyer. As is well known a fine course of lectures upon "Greek Sculpture" has been delivered in the Art Gallery during the past Winter by Prof. Eaton. Prof. Niemeyer has also lectured, both in the Art Gallery and in the Mechanic's course of lectures, in connection with the Scientific School. Altogether the Art School is in a flourishing condition as far as the activity and enterprise of its friends are concerned.

A party of ten students sailed last Wednesday morning in the Yacht, Washington, on a scientific expedition to Nantucket. They are equipped with Scientific apparatus for dredging, etc., loaned by the college authorities, and the object of the expedition is to attain as definite information as possible concerning the eastern limits of the marine fauna of these waters. Dredgings will be made off Nantucket, Martha's Vineyard, and other important localities, and interesting results are expected.

Prof. Harris of the Yale Theological Seminary goes to Europe at the end of the present term in that department and will remain for some time, returning in season to commence his duties at the beginning of the next collegiate year.

The boat race in the harbor for the cup offered by Mr. White did not come off last Saturday, on account of the fewness of the entries. It will probably come off some time next term.

YALE ALUMNI IN NEW YORK.

Last year in place of the regular public dinner, Hon. Wm. M. Evarts invited the New York Yale Alumni to meet at his house, and following the precedent thus set Mr. Chas. Tracy, this year asked the same body to meet President Porter at his residence, 128, East 17th street. In response to this invitation about one hundred met in Mr. Tracy's spacious parlors on Friday evening April 5th. There was a predominance among the guests of those who belonged to the older classes. Among those present were Samuel B. Ruggles, '14; Rev. Dr. T. E. Vermilye, and Harvey P. Peet, President, Deaf and Dumb Asylum, '22; Dr. Jared Linsly '26; F. A. P. Barnard, President of Columbia College, '28; Judge L. B. Woodruff '30; President Porter and Rollin Sanford, '31; Judge Edwards Pierrpont, '37; Prof. J. M. Hoppin, '40; Maunsell B. Field, '41; Andrew D. White, President Cornell University, '53; E. Seymour and Chas. H. Woodruff, '58; G. H. Coffey, C. L. Norton, H. G. Newton, C. H. Hatch, and C. A. Miller, '59; L. M. Jones, E. M. Gaul, and G. L. Catlin, '60; F. E. Kernochan, W. H. Fuller, and R. O. Williams '61; Henry Holt, R. K.Weeks, and R. H. Greene, '62; E. B. Bingham '63; Edmund Coffin and Hamilton Cole, '66; George Adee '67; W. P. Dixon, J. H. Wood, J. H. Wilson, C. C. Marsh, H. C. Woodruff, and John B. Isham, '68, and others. This was the first time the New York Alumni had met President Porter since his inauguration, and as each guest arrived he was introduced to the new President by Mr. Tracy. President Porter received many warm congratulations from those who were present. After an hour or two spent in active conversation, a magnificent supper was served and highly appreciated. A few informal speeches were then made. President Porter referred to the college and the demands of Young Yale in reference to its management and expressed the hope that all the advantages of the new ideas and the progressive thought of the age might be attained, while at the same time preserving all the good of the old and tried systems. Judge Edwards Pierrepont invited the alumni to meet at his house on the 16th instant, humoursly saying that there would be no eating and drinking there until after the business was over. The company broke up about 11 o'clock.

YALE PERSONALS.

'10, MORSE.—It is said that the last picture painted by the late Professor Samuel F. B. Morse, and which hung in the drawing-room of Locust Grove, his beautiful domain on the Hudson, is an admirable full length portrait of his daughter.

'17, MCCURDY.—Ex-Judge Charles J. McCurdy of Lyme, who is now delivering a course of lectures before the Yale Law School on "The Law of Life Insurance" recently delivered a lecture on the same subject before the law school of the university of New York.

'31, SAUNDERS.—Dr. Ephraim D. Saunders, who founded the Presbyterian Hospital in Philadelphia, has recently pledged himself to go on raising funds for it until he has obtained a million dollars. It will be remembered that Saunders Avenue, on which the hospital stands, was recently named after Dr. Saunders.

'37, MORRIS.—Rev. Myron N. Morris, has been chosen representative from West Hartford in the next legislature of Connecticut. Mr. Morris is pastor of the Congregational Church and a member of the college Corporation.

'37, SILLIMAN.—We learn from the *Scientific Press* that Prof. Benjamin Silliman, recently delivered a highly interesting lecture on the "Scientific Man," before the members of the City College, San Francisco.

'39, BURR.—Rev. E. F. Burr, D.D., of Lyme, now lecturing in Hartford Theological Seminary on the development hypothesis, has been invited to lecture in Auburn (N. Y.) Theological Seminary.

'41, NORTHROP.—Rev. Birdsey G. Northrop, Secretary of the Connecticut State Board of Education, who recently received a call to go to Japan as superintendent of public instruction is seriously considering the question of acceptance.

'43, HAVENS.—Rev. Daniel Wm. Havens has been chosen representative from East Haven in the next Connecticut legislature. Mr. Havens have been nearly 25 years pastor of the Congregational Church in East Haven.

'45, CARRINGTON.—Gen. H. B. Carrington, U. S. A., Professor of Military Science at Wabash College, Ind., has been admitted to the Bar of the United States Supreme Court, upon the motion of Henry Stanbery, Esq.

'48, HUBBARD.—Rev. J. P. Hubbard has resigned his rectorship of Christ Church, Westerly, R. I., and ac cepted the chaplaincy of Dr. Curtiss's consumptives' home in Boston, Mass.

'53, CAPRON.—Mr. S. M. Capron the successful Principal of the Hartford Public High School recently received from the class of '72, as a mark of esteem and respect, a beautiful silver oyster turreen.

'59, HALL.—Rev. Wm. K. Hall has resigned his pastorate of the Congregational Church in Stratford, where he has been settled for the past 5 years.

'62, MURRAY.—Rev. W. H. H. Murray is to deliver his famous lecture on "Deacons," in the Town Hall in Wallingford, Tuesday evening, April 16th.

'66, PIERSON.—The Missionary *Herald* for April gives the following account of an attack upon the Rev. Isaac Pierson in December last. Mr. Pierson formerly lived in Hartford and while in college was a member of the famous Wilbur Bacon crew. The *Herald* says: "Letters from North China announce a violent assault upon Mr. Pierson, at Yucho, on the 3d of December last, as he was addressing a company in the street. He lost his watch and some other articles, was somewhat seriously injured about the head, and for a time his life seemed endangered. But the anger of the mob was restrained, and he was able to write a full account of the affair the next day. On the 6th of December he wrote: "If the officials punish the culprits at all as they deserve, and return the articles of which I was robbed, the event is likely to be of great advantage to us in our residence among and relation to the people. This, if they are punished. The officer is planning to waste time and smooth the matter over, as in the Tientsin case, I think. If there were no roughs among the people there would be nothing to fear, for the general sentiment seems to be that of restored confidence."

'70, CARY.—At a regular meeting of the Presbytery of Philadelphia, held in the old Pine street church, Tuesday, April, 2d, Norman W. Cary was examined and licensed to preach the gospel.

'71, LEE.—R. B. Lee, who has been spending the Winter in Florida for his health, recently passed through New Haven on his way to his home, Nashville, Tenn. He intends to sail for Europe some time next month.

'71, LYMAN, SHERMAN.—C. Lyman and L. A. Sherman were in New Haven and spent a few days last week.

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GLEANINGS.

PERSONALS.

— Prof. W. L. Mitchell of the Georgia State University Law School has just commenced the study of Hebrew, at the age of 70.

— Lord Neaves has been elected rector of the University of St. Andrews, in Scotland, in place of J. Anthony Froude, the historian.

— It is understood that Rev. John H. Brunner is to succeed the Rev. F. M. Grace in the Presidency of Hiwassee College at Madisonville, Tenn.

— Rev. Asa Mahan, D.D., for many years President of Oberlin College, and more recently of Adrian College, Michigan, has joined the Methodist denomination.

— Dr. I. K. Bauduy, of St. Louis, has recently been elected Professor of psychological medicine, nervous diseases and medical jurisprudence, in the Missouri Medical College.

— The trustees of Williams College, at a meeting in Springfield, Mass., on last Wednesday, elected Prof. Chadbourne president of the college, in place of Dr. Mark Hopkins, resigned.

— At a recent meeting of the Board of Counselors of Ingham University, Leroy, New York, Rev. L. D. Chapin, of East Bloomfield, was invited to take the presidency of that institution.

— Rev. H. Talbird, D.D., formerly President of Howard College, Alabama, and recently pastor of the Church in Henderson, Ky., has accepted the pastorate of the Church in Lexington, Mo.

— Among the conspicuons honors paid to Mr. Motley during the tercentary anniversary of Dutch Independence was the degree of Doctor of Laws, conferred upon him by the famous University of Leyden.

— Prof. Brocklesby delivered a lecture in the Trinity college cabinet on Wednesday evening last, before the social society of the Phi Beta Kappa. Subject: "The relative influence of the Latin and of the Teutonic elements of civilization."

— President William H. Allen, of Girard College, President elect of the American Bible Socity, was made the guest last week at the Bible House, of a most pleasant reception, gotten up under the auspices of the Vice-Presidents of the society.

— Dr. Samuel Jackson, Emeritus Professor of the University of Pennsylvania, died at his residence in Philadelphia on Friday morning of last week, in the eighty-fifth year of his age. He has filled the professorship for twenty-eight years.

— Rev. Prof. Porter, D.D., of Belfast College, and son-in-law of the late Dr. Cook, sails for this country in the steamer Adriatic on the eleventh of April, and will represent his College at Dr. Hodge's Jubilee, after which he will attend the Assemblies in the United States and Canadas.

— Dr. Robert Brown has been appointed to the newly created lectureship on Geology and Palæontology in the Edinburgh School of Art. The lectureship is designed to view the relationship of these sciences to landscape painting, sculpture, architecture, and other fine arts and industries.

— Prof. Watson of Ann Arbor, Mich., reports the discovery, in the constellation of Virgo, of a new planet. It shines like a star of the eleventh magnitude, and its position is right ascension 200 degrees 55 minutes declination. It is moving slowly west in right ascension and north in declination.

— By the acceptance of Rev. Lemuel Moss, of his recent election to a chair in Crozer Theological Seminary at Upland, Pa., the faculty of that institution is constituted as follows: Dr. Weston, Prof. of Preaching and Pastorial Duties; Dr. Pepper, Prof. of Christian Theology; Dr. Osgood, Prof. of History and Hebrew; Dr. Moss, Prof. of New Testament Interpretation. Dr. Moss was by trade a printer, and entered Rochester University at the age of 24. After graduation, he was settled as pastor in Worcester, Mass. Subsequently he was professor of systematic theology at Lewisburg, and for four years past editor of the National Baptist.

COLLEGE.

— Shurtleff College at Upper Alton, Ill., is said to be in a very prosperous condition.

— The Seniors at Hamilton College, have engaged Dodworth's band for commencement.

— The late Professor Morse was the architect of Seabury Hall, the middle building of Trinity College.

— The new Library Hall at Hamilton College, will be ready for the reception of books on the 1st of July.

— The work of taking down the Hamlin University building at Red Wing, Minn., has already commenced.

— Training has vigorously commenced at the Amherst Agricultural College for the next college regatta.

— Robert Bonner has given five thousand dollars to augment the salaries of the professors in Princeton College.

— The Harvard Club has received a challenge from the Lone Stars of New Orleans, who are coming North next June.

— Henry Clay's birthday, the 12th of April, will be commemorated at the Agricultural College at Ashland, Ky., by the students.

— At the recent commencement of the Medical Department of the Northwestern University at Evanston, Ill., there were 32 graduates.

— Robert Brooks and T. W. Cane, two colored graduates of Lincoln College, have entered the Episcopal Divinity school at Philadelphia.

— The Maine Wesleyan Seminary and Female College is said to have a much larger number of students than is usual for the winter term.

— William Shakespeare's "Sonnets" have been translated into Swedish by Mr. C. R. Nyblom, Professor of Æsthetics at the University of Upsala.

— The University of Cambridge has made a donation to Chicago of the valuable series of books issued by the Pitt Press, or University Printing Office.

— Fifty graduates of the law department of Michigan University, including one lady were admitted to the bar in the Supreme Court a week ago last Tuesday.

— The successful competitors this year for the Head prize and Pruyn medal at Hamilton College, were J. H. Shepherd and C. L. Stowits, of the Senior class.

— The annual exhibition of the junior class in Albion College, Mich., was recently held. There were five orations one of which was delivered by a lady.

— The "Ingham Lectures," delivered before the students of the Ohio Wesleyan University, are to be published in a volume edited by Prof. W. G. Williams.

— Dr. Evans, the American-Parisian dentist, has had a copy of Ary Scheffer's portrait of Lafayette, made by Healy, as a gift to Lafayette College, Pennsylvania.

— The class of '70, in Harvard College met last Tuesday afternoon, and passed appropriate resolutions on the death of their classmate Roger Williams Swain.

— The junior exhibition of the Mass., Agricultural College, was held on the evening of April 5th. There were six orations and singing by the college glee club.

— Prof. North of Hamilton College, is traveling in Greece. He recently delivered a lecture upon Eschylus and Athens in Greek. He is expected to be present at next commencement.

— The Alumni Society of Girard College intends to properly observe the one hundred and twenty-second anniversary of the birthday of Stephen Girard, which occurs on May 21, 1872.

— It is stated that more than eight hundred of the four thousand graduates of Dartmouth, have been preachers of the gospel. The College Church have introduced congregational singing.

— The State Agricultural College of South Carolina, has been permanently placed in connection with the Claflin University, at Orangeburg, S. C. This arrangement will give the university a considerable endowment.

— Women are still to be debarred from studying medicine in the German universities, the Cultus Minister deciding that there is no demand for lady doctors, and that female physic would be a mere drug in the market.

— The *Tripod* published at Northwestern University Ill., has an appeal for better rooms and better convenience for board. It says these things are entirely possible if the college authorities will only do what they have the power to do.

— The medical faculty of Moscow, Russia, look with favor on Female physicians, and have resolved to admit them to the educational courses and lectures of the university, and to the privilege of following all the labors of the Medico Chirurgical Academy.

— The Senior Class of Colby University, according to custom, recently had their "Sap Holiday." They were excused from their lessons, adjourned *en masse* to the "sugar camp" on the outskirts of Waterville, and partook largely of the sweets of nature.

— The next term of Amherst College begins April 18. The Sawyer medals to the class of 1874 have been awarded to Jesse F. Forbes, of Cromwell, Ct., and Isaac M. Mills, of Webster, for excellence in the study of human anatomy, physiology and hygenie.

— All professors engaged at the Strasbourg University, with one exception, have announced that their lectures will be held in German, instead of French. One native Alsatian lecturer has offered to read in whichever language his hearers may decide.

— The University of Prague, Austria, is to be separated henceforth into two, viz., a German and a Czech University. New universities are to be founded in Moravia and Bukovina. A judicial college is likewise to be founded in Trieste and a medical academy at Salzburg.

— The gift of early Shakespearean rarities made by Mr. Halliwell to the University of Edinburgh does not include the more modern books in his library. These, including numerous volumes of unpublished notes on the text, have been presented to the Shakespeare Museum at Stratford-on-Avon.

— The prospects of the Central University of Iowa, are said to be looking brighter than they have for many years. The proposed $40,000 towards an endowment seems likely to be raised during the summer. President Dunn is now in the East working for this object, and report says with good success.

— The Regents of the Illinois Industrial University strongly recommend the establishment of technical schools for women. It is proposed to include in the course of instruction the studies of the arts of design, photography, telegraphy, printing, book-keeping, teaching, literary work, and last, but not least, domestic economy.

— A student in the Edinburgh University, who was fined a guinea for disturbing his class recently, paid the greater part of it in half-pence, about a quarter of an hour being occupied in counting over the amount. This singular mode of "serving out" the professor who inflicted the fine was carried out amidst the laughter of the class, by whom the amount had been subscribed.

— It is said that Mr. Stephen Pearl Andrews has filed with the Recorder of Deeds in Washington, a certificate of incorporation for the establishment of a "Pantarchical University," with "nineteen first-class professorships and 10,000 second-class professorships, to be filled by competent men and women whose labor it shall be to teach federific unification, natural development, evolutionary law and religion."

— Detriments of co-education. Scene in recitation room. Freshman explaining example and pretty female freshman drawing (not cutting) a figure. *Abstracted instructor to freshman*—That is right, sir, you may take your seat—*Professor, who is looking on*—Why! he made several mistakes in his demonstration. Didn't you notice them? *Instr.*—No, I was paying all my attention to Miss Malapert. *Prof*—Oh!—*Chronicle.*

— The trustees under the will of the late James Arnold of New Bedford, has made arrangements with Harvard College to establish on the Bussey estate, in West Roxbury, an arboretum of about one hundred acres in extent, which, it is intended, shall some day contain all the trees and herbaceous plants hardy in this lattitude, thus forming a beautiful park, as well as a most interesting, valuable and instructive collection. While a wide discretion was given to the trustees in the disposition of the funds left to their care, the establishment of an arboretum was a favorite plan of Mr. Arnold's.

— The income of the agricultural college fund for the state of Rhode Island amounts to $3,000 per annum, and goes to Brown University, which in return has agreed to educate young men as state beneficiaries, to the extent of the income from the fund. The General Assembly has arrogated to itself the privilege of annually choosing for presentation to the governor and secretary of state the names of worthy young men from the several towns, to be educated as state beneficiaries, but by neglecting to do its duty 30 young men are annually denied the benefit of the appropriation.

— The Polytechnic Academy at Munich is frequented this Winter by 900 students and non-inscribed visitors *(hospitanten)*. The engineering class has the greatest number of pupils, namely: 346 students and 12 casuals; however, in the general class the casuals have a majority, being 115 strong. Of all visitors, 670 are natives of Bavaria, and 230 non-Bavarians, amongst whom are a great number of foreigners, particularly Russians and Americans. It appears that the South German and Swiss Polytechnic schools at Munich, Stuttgart, Carlsruhe and Zurich have greater attractions for these two latter nations than the North German technical institution.

TRAVELERS.—Never take a trip without a bottle of Williams' Extract Jamaica Ginger. 70

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From Yale Courant, Apr. 3, 1872.

ANOTHER POST-GRADUATE COURSE.

We of the Senior class are becoming more and more interested in the consideration of what we are to do next year and of course the question is answered in as many different ways as there are different dispositions and gifts among a hundred and thirty men.

What we have now to say is intended mainly for those who have already decided to enter upon a graduate course, whether professional or not.

We have most of us now been steadily at school for ten years, more or less, and have fallen into a kind of a rut in which our mental wheels are likely to run for the rest of life. This is necessarily so. While so long a period of study is calculated to strengthen and widen the mind in culture, it cannot fail to confine it within a comparatively narrow range of experience. Whatever knowledge of mankind we have is derived from our classmates, who with all their differences of nature, have been so far subject to the same training as to show but a single type of the many which make up society. But one class of the nation is represented in college. It is indeed an influential and important class but numerically it is a small one when compared with the people at large.

And a professional man generally stands in such relations to those who employ him that it is especially desirable that he should know human nature to a very great extent. This knowledge is very difficult for any one to attain in the practice of a profession if his whole previous life has been spent in study, and he has had no chance to observe men outside of the circle in which he has lived.

It therefore seems to us most desirable that every person who intends to pursue his studies further, and who has not had some such experience previous to entering college, should employ a year in some kind of active business which shall bring him into contact with men. If one can do nothing but carry a chain for a surveying party, or even act as the detested book agent, he had better do it than keep on in the old course of uninterrupted academic life. The object of this business not being to make money, anything that will pay expenses is enough for the purpose. Travel abroad will hardly serve the same purpose unless one has extraordinary discretion and exceptional views as to the proper way to profit thereby.

We are sure that every one who will think of this matter, will be convinced that we are right. The only objection to this course which is likely to be urged, is that most men cannot afford to lose the time. But a year thus spent is not so much lost as a year of study, for it goes much farther towards rendering available the knowledge which we have already gained in the years of school and college life.

At any rate the subject is worth considering.

Grass seed has been sown over the bare ground in front of Durfee and Farnam, and bids fair to mature about 1972.

THE NEW

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FOR

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Every teacher in a public school who has ever desired to teach music has felt the want of a book that was simple, clear, and progressive in its character — one that could be used even if the teacher was scarcely proficient in the first rudiments of the science. Such is the new Music Reader by Mr. Jepson. His system of teaching, as set forth in this book, has been pronounced to be the best in the United States by the highest authority in this country, Gen. Eaton, Commissioner of Education at Washington. Mr. Jepson has been a teacher in New Haven for several years, and the high appreciation of his system of music by the principals of the public schools in which he has taught, and other distinguished educators, may be gathered from the following:

It gives me much pleasure to testify of the success attending the study of vocal music in our school under the superior management of Prof. Jepson. Mr. J. is thoroughly qualified for his work, and enters into it with a zeal that is highly commendable. Not being satisfied, however, with what he has already done, he has conceived the idea of revising his "Elementary Music Reader," making a complete and easy gradation of exercises adapted to the wants of the younger as well as the older pupils. Mr. Jepson has already established an enviable reputation in New Haven as a teacher of vocal music, and his revised work, so admirably adapted to school use, will no doubt meet with a large sale.

GEO. R. BURTON, Prin. Wash. School, New Haven.

For several years I have had the opportunity of observing Prof. B. Jepsoh as a teacher of music in public schools, and more particularly in our own High School. In his department of instruction, I have never known his equal in securing early and valuable results. Whether his success has been mainly due to his own personal efficiency or to the peculiar features of his system as comprised in his "Music Reader," I cannot tell; I only know that the training he gives is thorough and natural, and that his pupils early learn to sing with a rare degree of intelligence and self-reliance.

T. W. T. CURTIS, Principal of High School.

Mr. Jepson's work and methods in teaching music in the New Haven public schools is an undoubted success. I would cordially commend his books to the attention of all who have an interest in this study in schools.

JOHN G. LEWIS, Principal of Webster School.

It gives me great pleasure to recommend Prof. B. Jepson's system of music and vocal culture. At the time of its introduction I doubted the utility of teaching note singing in our large schools, but its perfect success has disarmed prejudice, and I should now regret any change which would deprive us of instruction so valuable. Very truly,

L. L. CAMP, Principal of Dwight School.

It gives me pleasure to recommend Prof. Jepson's "Music Reader" to any wishing a thorough course of instruction in music in their schools. The books are, as their title imports, a *series* of music readers *systematically* and *progressively* arranged for the use of all grades of pupils, from the Primary to the High School. These readers have borne *most successfully* the best test of school books, namely, a daily use in classes for a term of years; and have been instrumental in convincing the most skeptical that all can be taught to read music with facility by the time that they are prepared for the High School.

JAMES D. WHITMORE, New Haven High School.

Every exercise which is undertaken in the school-room should be executed honestly and thoroughly. I have always regarded the "Elementary Vocal Drill" as the exercises of all others the most reluctant to conform to this rule. In overcoming the difficulties of the exercise, I have received more help from Mr. Jepson's system of elementary vocal drill than from any other.

JOSEPH GILE, Principal of Eaton School.

Prof. Jepson's Music Reader is, in my opinion, the most systematic and best adapted to school use, of any work of its kind now before the public. I have entertained a high opinion respecting its merits, since first seeing it in manuscript—*an opinion which its use in the school-room for several years has greatly strengthened.* Prof. Jepson is deserving of the praise which his highly meritorious work receives, and we cheerfuliy add our testimony to the above.

RALPH H. PARK, Principal of Eaton School.

"Jepson's Music Reader" has been used in the daily practice of vocal music in this school since its organizalion. The results have been, not only satisfactory, but wonderful. The system is such that children reading in the Primer or First Reader can learn to sing the scale, first by numeral, then by syllable, then simple melodies in different keys, and so on through the elements of music. The children in the Grammar Department are able to sing new music at sight in four parts. The time spent in the daily practice is from fifteen to twenty minutes.

H. C. DAVIS, Principal Skinner School.

Professor Jepson's method of teaching singing, as arranged in his "Elementary Music Reader," is of a *very superior order*, and in our schools will do everything that can be reasonably expected of a work of the kind.

RALPH G. HIBBARD, Professor of Elocution.

Mr. Benj. Jepson, the instructor of Vocal Music in the public schools of New Haven, has shown great tact and skill in teaching singing by note to even the youngest pupils in the schools of the city. His system has been long and thoroughly tested in New Haven, where it is now working admirably. Gen Eaton, National Commissioner of Education, and Gov. English, when visiting the schools of this city, expressed their surprise and gratification at hearing children in the primary schools sing *at sight* various exercises marked at the time on the blackboard. I should be glad to find the system which has here been so successful, generally adopted. Certainly, music should be taught in all our schools.

B. G. NORTHROP, Secretary State Board of Education.

I am familiar with Mr. B. Jepson's methods of instruction in singing as laid down in his "Elementary Music Reader," and as exemplified in his own practice. The "Reader," both in the earlier and later editions, has been used in our schools, and I am convinced that if the course there indicated be followed with tolerable energy and perseverance, the results will demonstrate the great value of the system and of the book.

H. E. SAWYER, Superintendent of Schools, Middletown, Ct.

The price of the Reader is 60 cents. Any teacher desiring it for examination will be furnished a copy by the publishers, Charles C. Chatfield & Co., New Haven, for 30 cents.

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, APRIL 20, 1872. NUMBER 16.

THE SCANDINAVIAN DIVINITIES.

THE MODE OF WORSHIPPING THEM.

BY PROF. P. C. SINDING.

It is not easy to form an exact notion of the religion formerly professed in the North of Europe, because much of that which has been written on this subject, is often deficient in point of exactness. Odin, the supreme God of the ancient Scandinavians, who, if an historical person, invaded Scandinavia about 70 years before Christ, is, as is well known, considered the founder of a new religion, which is called the "Scandinavian Mythology," and which had some affinity to the old Persian and Scythian religion, from the borders of which countries he most probably came. A space of seven or eight centuries intervened between the time of Odin, and the conversion of Denmark, Norway and Sweden to Christianity. The motive of the worship introduced by Odin, who in the old Sagas is called "the most persuasive of men," has a great resemblance to the Christian ideas, containing much of the spirit of obedience for which St. Paul praises the pagans that are without the law, but do by nature the things contained in the law, showing the works of the law written in their hearts. It was, namely, the fear of a deity irritated by the sins of men, but who at the same time was merciful, and capable of being appeased by prayer and repentance. To serve this deity by sacrifices, to do no wrong to others, and to be brave and intrepid, were the moral consequences. Lastly, the belief in a future state completed the whole building. Cruel tortures were there reserved for such as despised these fundamental precepts of morality, and joys without number awaited every valiant man. This is, shortly expressed, the principal head of that ancient religion, which for many centuries prevailed through the North of Europe.

But all barbarous nations, not able to comprehend, how it is possible for one single being to move and support all parts of the universe, have ever substituted the operation of spirits and divinities of all kinds, and have given them as assistants to the Supreme Being in the government of the world. This was what happened in Scandinavia. In process of time the Supreme Being, Odin, was restrained to one particular province and passed among the inhabitants for the God of War. No object in their opinion, could be more worthy his attention. Hence he is called in the old Sagas: "The terrible and severe God, the father of slaughter, he who gives victory, and inspires courage in the conflict, he, who names those that are to be slain." The warriors who went to battle, made a vow to send him a certain number of souls. These souls were Odin's right. He received them in Hlidskyalf, the name of his heavenly palace, where he rewarded them with an inspiring beverage, more inspiring, say the old Sagas, than ever after can be quaffed. The assistance of this divinity was implored in every war, and it was believed that he often descended to intermix in the conflict himself, thereby to inflame the fury of the combatants, and to carry their souls, who were to perish, to his celestial abode of comfort.

But this terrible divinity, who took such a pleasure in shedding the blood of men, was at the same time according to the old Sagas, their affectionate father. He had created the whole universe, and before the heavens and the earth came into existence, he lived with the giants, that is to say, he was eternal, without beginning of existence. These ideas, however, were not peculiar to Scandinavia. The Germans likewise attributed to the Supreme Being a superintendence over war. And there remain to this very day some traces of the worship paid to Odin, in the name given by the people of the North, to the fourth day of the week, which was formerly consecrated to him. It is called by a name signifying Odin's day. In old Norse, Odindag; in Danish and Swedish, Onsdag; in Anglo-Saxon, Wedenesdog; in Dutch, Woensdag; and in English, Wednesday.

As assistants to Odin in the government of the world, were given him both Gods and Goddesses. The principal Goddess among the ancient Scandinavians, was Frigga the wife of Odin. Another celebrated goddess was Freya. She was the goddess of love, and plays a prominent part in the Northern mythology. She was addressed in order to obtain happy marriages and easy childbirths. The celebrated Icelandic poem called the Edda, styles her the most favorable of the goddesses; but she went to war as well as Odin, and divided with him the souls of the slain. It appears to have been the general opinion, that she was the same as Venus of the Romans, since the sixth day of the week, which was consecrated to her under the name of Freya's day, was rendered into Latin: *Dies Veneris* or Venus's day. In Danish, this day is called, Fredag; in German, Freitag; in Anglo-Saxon, Freyadog; and in English, Friday, all signifying Freya's day.

The second principal God of the ancient Scandinavians, was Thor, whom also the Teutonic nations valued as highly as Odin, who was considered his father. The Scandinavians called him the bravest of the sons of Odin. He always carried a mallet or hammer, which he grasped with gloves of iron, and he was further possessed of a girdle which had the power of renewing his physical strength as often as it was needful. To him the fifth day of the week was consecrated, and is called by a name signifying the day of Thor; in Danish, Torsdag; in old Norse, Thorsdag; in German, Donnerstag; in Dutch, Dondertag; and in English, Thursday. These divinities here mentioned were the principal objects of worship amongst the old Scandinavians; but they did not all agree amongst themselves about the preference which was due to each of them. Thus the Danes seem to have paid the highest honor to Odin; the Norwegians and Icelanders to Thor, while the Swedes seem to have chosen for their protecting divinity, Freya, who presided over the seasons of the year, and bestowed fertility and health.

Baldur, was another son of Odin, wise, eloquent, and endowed with such great majesty, that his very glances were shining. Tyr, to be distinguished from Thor, was also a warrior divinity, from whom is derived the name given to the third day of the week; in Danish and Norwegian, Tirsdag; in Anglo-Saxon, Tyrsdog; and in English, Tuesday. Brogi, another son of Odin; presided over eloquence and poetry. His wife, Idunna, had the care of certain apples, which the Gods tasted, when they found themselves growing old, and these apples had the power of instantly restoring them to youth. Heindal, was the porter or doorkeeper of the gods. There was a bridge between heaven and earth; this bridge was the rainbow. Heindal was employed to watch this bridge, for fear the giants should make use of it to get into heaven and make war upon the Gods. This Heindal was, besides his office, quite a remarkable person. It was a difficult matter to surprise him, because the gods had given him the faculty of sleeping more lightly than a bird, and an ear so sharp and fine, that he could hear the very grass grow, and the wool on the backs of the sheep.

I suppress here the other gods who made up the number of twelve; but I must bestow a few remarks upon Loki, whom the ancient Scandinavians seem to have regarded as the serpent is regarded in the Bible. Genesis, as the first book of Moses is called, says: "The serpent was more subtle than any beast of the field, which the Lord God had made." The serpent is, as we know, the evil seducing principle. So is Loki in the Scandinavian mythology; but the difference is, that the Bible does not rank the serpent like a god, while the Scandinavian mythology does this in respect to Loki. He is like a god, beautiful in his figure, but his mind is evil, and he surpasses all human beings in perfidy and craftiness. He continually fights with the gods, who, however, at last conquer this evil principle, and shut him up in a cavern, where he remains captive till the end of the ages, when he shall be slain by Heimdal, the doorkeeper of the gods. Then a new earth shall spring forth from the bosom of the waves, the fields shall bring forth without culture, calamities shall be unknown, and a palace shall there be erected more shining than the sun, all covered with gold, This is the place which the just and brave shall occupy, and enjoy delights for evermore.

I have remarked that there were twelve gods, and the Scandinavian mythology reckons also twelve goddesses, including Frigga, the spouse of Odin and the chief of them all. But besides these there were numerous virgins, young maidens, in Valhalla, or the paradise of the heroes. These young maidens were called Valkyrier, and their business was wait upon the gods. Odin also employs them to choose in battles those who are to perish, and to make the victory incline to whatever side he pleases. The court of the gods was ordinarily kept under a great ash-tree, called Ygdrasill. This ash is the greatest of trees, its branches cover the surface of the earth, its top reaches heaven. From under this tree runs a fountain, wherein wisdom is concealed, and from a neighbouring spring three virgins are continually drawing precious water, with which they water the ash-tree and keep up the beauty of its leaves. These three virgins always keep under the ash-tree, and they are regarded as the ones who dispense the days and ages of men, like the three Parcæ or Fates in the Greek mythology, who presided over human life and spun it out.

When now we turn to the prevailing mode of worshipping these divinities, we find almost the same idea of these deities among the old Northmen as the Bible (2d Chron., ch. 6th) expresses, where Solomon says when dedicating the temple he had built: "Behold, heaven and the heaven of heavens cannot contain thee, O God; how much less this house which I have built"; for it was at first considered an offence to the gods to pretend to inclose them within the circuit of walls. The ancient Scandinavians, therefore, first worshipped their gods in the open air, and neither knew nor approved the use of temples. Thus we find up to this very day here and there in Denmark, Norway and Sweden, in the middle of a plain or upon some little hill, altars around which they assembled to offer sacrifices. But by degrees, as the Scandinavians formed new connections with the other European nations, either by the numerous maritime expeditions they undertook, or by the foreign colonies established amongst them, their religion at length tolerated grottoes, or artificial caves, which we find, especially in Norway, cut with incredible pains in the hardest rocks. Afterwards they commenced to use temples and idols, and at length adopted them without any reserve. The three nations of Scandinavia vied with each other in erecting temples, but none was more famous than that of Upsal in Sweden, which glittered on all sides with gold. Hakon, earl of Norway, had built one near Drontheim, which was said to be not much inferior to that at Upsal, but when Olaf Trygveson, king of Norway, introduced the Christian faith, he caused this temple to be demolished, and broke to pieces the idols it contained.

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ART EDUCATION.

BY PROFESSOR JOHN H. NIEMEYER, YALE COLLEGE.

[The following is a portion of a lecture which was delivered before the professors and students of the Sheffield Scientific School, and friends of the Art School of Yale College, April 6th, 1872. The occasion of the lecture was the exhibition of the free hand drawings of the students in the Art School, which have been made during the past five months, under the instruction of Professor Niemeyer. We hope to give the remaining portion of the lecture in a subsequent issue.—EDS.]

It is with a moderate and perhaps pardonable degree of satisfaction, that I present to you, gentleman of the Sheffield Scientific School, the work of your students, in our department of the University, during the last five months. I say moderate degree of satisfaction, in order not to overstate the importance I attach to this work. But the signal and marked progress of most of the students in this experimental first term of our existence, would justify a much stronger expression. For the industry, talent and application of the students have exceeded all my expectations. And while I congratulate you as their officers, and them, on the result, as shown by this exhibition of their work, for I can confidently say that is is all their own work; it inspires me with confidence in the possibilities and efficacy of the system, in which they were trained, and fills me with strong hopes for the future of our school. I feel that the power and influence of every institution of learning is based upon and rests in its pupils. They are the fruit of the tree, and, are we not told, that, "by their fruit ye shall know them."

This first exhibition of the pupils of the Yale School of the Fine Arts, is a more significant and interesting event, than could possibly be any collection of the finest pictures that might be brought together in this building. We thus show that this institution is responding to its original design, to the purpose of its venerable and honored founder, Mr. Augustus Russell Street, namely that of a School of the Fine Arts, embracing Painting, Sculpture and Architecture. And as all these have their root in a thorough and fundamental knowledge of drawing, which is their essential element of success and excellence, it is but just that the first evidence of work should be in this direction.

When now we consider, that five months ago these men knew nothing about drawing, could not, what is commonly called "draw a straight line," which, by the way is a more difficult performance than to draw a crooked one, unless the crook be to some purpose; and that in the cases where it was otherwise the previous study had embarassed them with false notions, which if became necessary to unlearn, in view of these facts, I say this exhibition is a clear record of the efficacy of this course. And yet, the work here is not a perfect exponent of the actual development of the students. It only shows the progress of the mechanical skill, in using the crayon and stump. But beneath and beyond that, there is a mental development, which is not apparent to people unaccustomed to judge of the intellectual value of works produced by Art. Daily, I hear the complaint, that "I see this and that effect, which I have not seen and appreciated before, but I cannot make this crayon reproduce what I see. Don't you think, sir, that this is a poor paper, or isn't this a bad stump." "No, the paper and the stump are good enough to produce anything; the trouble is in your want of ability to use them. Yet your execution is as good as could be expected under the circumstances. It must be remembered that this material body cannot keep up to the speedy development of the mind, but follows it with a snail's pace, compared to the electric swiftness of the latter; that is why you see and comprehend continually more than you can reproduce, and, therefore, this exhibition is not the measure of the development you have been undergoing." This is the true and healthful state. It is the mind that we are trying to reach. All Art education that does not aim at the mind, is false and useless, and inducts to error and to a just contempt for the things taught. A vigorous game of foot-ball is a more profitable employment of time, for that at least expands the lungs and hardens the shins; while the other enervates both body and mind. We have in Art too much of this handicraft; this machine-like execution of inane prettiness, and too little of the intellectual wealth, which true Art represents. We have too much of morbid sentimentality, and not enough of true sentiment, sustained by just reason and the deepest moral forces that move the heart and mind of man.

But it is not of Art-Education in reference to artists that I intend now to speak—I hope to do that at some future time—but of the influence of the power to draw on men who are called to the pursuits of scientific investigation. It is not usual to give mathematicians and scientists the credit, of being much occupied with or influenced by the imagination, and yet most scientific discoveries have been results of the sublimest activity of the power to imagine or mentally see things as they are, before they are actually known by experience. And men are thus lead, by these visionary facts, which are as real to them, as they have afterwards been to others when they had been demonstrated, to pursue to successful terminations experiments which they hoped would establish and prove these visionary imaginings to be real and great facts or truths, and that too in spite of discouragement, persecution and even ridicule. In imagination aroused by the falling of an apple in his mother's orchard, Newton lifted himself into infinite space, and saw the force, that holds the planets in their orbits. Before him Copernicus first imagined, then demonstrated, that the sun is the center of our system, and around him all the planets revolve. Every inventor first imagines his project, then develops it. And may we not properly ask is not this faculty of the mind which is so active in the most earnest, profound and practical of men, a subject worthy to be considered, when organizing a plan to educate men for the higher pursuits in life? And are the means by which this power may be fostered and enlarged, unworthy objects of attention for earnest promoters of the intellectual and moral advancement of the race? In the fierce mental and physical activity of men of science to investigate and reveal the secrets of nature, those will be first, who are best provided with the power to combine their accumulated facts, and mentally to construct them into logical and rational sequences and systems.

Now the practical study of art, has for one of its objects the development of the analytical and synthetical powers of the mind. In drawing from an object a close and subtle scrutiny of that object is necessary; the mind must make an accurate analysis of the whole and the parts, and then communicate this intelligence to the hand which records the degree and accuracy of the observation, by reproducing the object in light and shade, as seen by the mind. The image of this object is thus impressed or engraven, so to speak, into the mind, and this impression becomes a reality out of which the mind constructs its imaginary facts, and upon which it bases its edifice of original thought. But beside the development of the imaginative power of the mind, resulting from art-training, there is another equally important and as often called into requisition in discoveries and investigations, namely comparison, or the power of considering the relation of persons or things, as to their agreement or disagreement, resemblance or difference.

I have placed before you here four facts. The first is the head of the famous Fighting Gladiator of the Louvre; the second, that of Nero; the third, of Vitellius; and the fourth, Dante, a cast taken from his face after death. Now, if in looking at these four heads, we receive only the general impressions of heads of men, the camera obscura does as much. But if our judgment has by experience been so trained, that at a glance, by an instantaneous comparison, we perceive the characteristic difference and opposition of these heads, it implies a mental action, the power of which is given in a greater or less degree to different individuals, but which is intensified and given precision by Art-Education. The things which characterize each of these heads, is impressed in every form and detail that goes to make up the whole; and our accuracy of rightly comparing the four heads, depends upon our knowledge of the details of each. And this knowledge is most effectually attained by the necessity, which drawing exacts, of comparing the several details that compose the *ensemble*, and vividly comprehending their relations in a consistent unity of impression. The firm sinewy tension of every muscle of the Fighting Gladiator, trained for physical combat, requires a different mode of reproduction in drawing, than the brutal, sensuous forms of the magnificent Roman tyrant, who sang sweetly to a harp, while he reduced Rome to ashes and desolation, or the flabby, emasculated drooping flesh of the imperial glutton at his side; and still greater difference in the refined, melancholy, mysterious lines of the Florentine poet, whose face is moulded into a sublime severity by the force of his intellect and habit of deep thinking. It will be readily seen that the continued exercise of such analysis and comparison must increase the quickness and accuracy of the mind in judging the comparative value of things presented to it.

There is scarcely anything more curious, than to observe the different and imperfect ways the untrained eyes of different persons see things, as manifested by beginners in drawing. No one can describe in language exactly how he sees a thing. But let him attempt to draw it, and at once he shows his defects or perfection of vision. There are some who see all things too small, while others see them too large; some eyes flatten objects horizontally, others elevate them vertically; between these and other contrasts, there are infinite shades of vision, resulting, as I shall presently show from the imperfect natural construction of the eye.

In our school we have adopted the human form as the basis of our instruction, and in this we follow the best schools of art in Europe. The infinite variety and subtile transitions of form in man, is well calculated to call forth and develop the student's possibilities in an effectual and rapid manner. Besides, the form of man addresses itself to the sympathies of the intelligent student, and is thus better calculated to awaken thought and interest in his work, than any simple inaminate object could be. He at once finds himself in close contact with a fellow being, and, as is usual in such cases, his inquiring mind endeavors to draw from him, in a double sense, his secret thought and purpose. The human form is the most difficult of anything that could be presented to the student, but this difficulty is simplified and almost overcome by a system of generalizing this form into geometrical lines and angles. On this blackboard, I have drawn the outlines of each of the heads before you, in the manner indicated. You see that the character of each is recognisable even in this simplified reduction to straight lines. Looking at the heads through these lines, you see the comparative height and breadth of each, the angles and inclinations of the separate parts. The vertical and horizontal lines show the direction and relative position of details, as the nose, eyes, mouth, ears, etc. If now, by this simplified way, the power is acquired to draw the human figure which is the most difficult and complex of all natural objects to represent in drawing, it follows, that all other objects become easy, in the ratio that they are removed from the human. And, as in mathematics, the greater contains the less, so we find in the human form, the elements of all the forms and lines found in all other visible objects, whether organic or otherwise. The elements in the human differ from those in the latter, by their superior combination and purpose. Many persons have amused themselves and others by tracing in analogous lines, analogous characteristics between man and the dog. Although they have established no scientific fact, such compari-

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sons have often the unintended purpose of calling attention to the great height man is elevated above the rest of creation; at the same time presenting points of con. tract which connect him with the other.

THE METRIC SYSTEM.*

[Although we have so recently referred to Dr. Barnard's works upon this system, by taking from the *Evening Post* a portion of an article, written by Dr. A. M. Mayer, of the Stevens' Institute of Technology, yet we gladly give place to the following, from the pen of Dr. Lieber, believing that the importance of the subject and the merits of the work referred to fully justify a recurrence to it again.—EDS.]

To the Editor of the College Courant:—The progress of our race, from the beginning of civilization is marked by or consists in the gradual remove of the hindrances in the way of communication, whether these *impedimenta* consist in water or rock, in hostile jealousy or enmity to the stranger, in different alphabets and numbers, or in measures and coins. The diversity of the latter in the various European countries was immense; now most countries in that portion of the globe have advanced to a perfect unification of measures and coins, at least, within themselves—a process completed only lately on the continent of Europe, while the student of civilization will never fail to acknowledge with manly admirations that the English determined, in Magna Charta, on a national measure for ale and wine, for cloth, weight and coin, as early as 1215, when every where else there was barbaric confusion, and incongruity. But our Cis-Caucasian race having accomplished, in very many countries at last, the high process of Naturalization, the demands now extend wider and higher. ' I am writing in the telegraphic age, and on the very day we buried Morse. The great "State System," or family, or commonwealth of Nations, of which the members are the Nations of Europe and America, banded together by the Modern Law of Nations, and the ever-wider unfolding International Law—our Cis-Caucasian Commonwealth stands in need of a unification of measures, carried beyond the different national limits. It is one of the means of carrying out farther and farther the message brought us two thousand years ago: Peace and good will toward men.

This unification of measures and international uniformity of coinage, has been carried out to considerable extent, both in Europe and America; and it is the necessity of carrying it farther and bringing it home, among other nations besides ourselves, that gives interest and importance to the work of President Barnard, which leaving behind all Chauvinism, shows profoundly and in detail that not only is the uniformity of Measure desirable, but that it is the *metric system* which must be and will be ultimately adopted by us, by the English, and let me add, by the Germans, who unfortunately allowed to pass, a short time ago, a fair opportunity of adopting the *franc* as monetary unit. The question is only, when will the metric system be adopted? The sooner the better. In the mean time, the best that can be done, is to show the world, again and again, that it is unavoidable—an unavoidable blessing, as so many are against which people struggle long and perseveringly. Who would lose hope? Did not the great Habeas Corpus pass the House of Commons six times, before it passed in 1679, the House of Peers, and became the statute called the Habeas Corpus Act, which passed into our Constitution as the *Habeas Corpus Principle? Perfer et Sperne.*

I have endeavored to show elsewhere, and partly in another language, the importance of uniform measure and coin, for the Law of Nations, and all International Law, and believing that the metric system is the system of measures which must inevitably be adopted by our entire branch of the Aryan Race, ultimately, probably all over the globe, I naturally desire to express my wish that this instructive book of Dr. Barnard now only printed in one thousand copies, be reprinted for regular publication in a sufficiently cheap edition—a desire in which I am joined, I believe, by Mr. Ruggles, the foreman of American workers for international uniformity of coinage and measures.

Yours obdt.

FRANCIS LIEBER.

**The Metric System of Weights and Measures.* An address delivered before the convocation of the University of the State of New York, at Albany, by Frederick A. P. Barnard, LL.D. Revised edition, 1 872. Published by order of the trustees of Columbia College.

BELOIT COLLEGE.

The following in reference to Beloit College is taken from a long article in the current number of the *New Englander*, under the same heading. The article was written by Prof. A. L. Chapin, President of the institution. After giving an account of the circumstances connected with the origin of the college, the writer proceeds as follows:

A charter for the college was obtained from the Territorial Legislature of Wisconsin in 1846. In the summer of 1847, the corner-stone of the first college building was laid, and in the autumn of the same year, the first class was received as Freshmen for the prescribed course of study. The central idea in the whole movement was to provide for the true work of an American college according to the main features of the New England model—that is, the thorough disipline and liberal culture of young men for four years in the transition period from youth to manhood. It was designed at first to hold the institution strictly and exclusively to this proper College work. But it was soon found that, for lack of classical academies or their equivalent in the region, a preparatory school must be provided as a necessary adjunct.

The commencement in July next will be an anniversity of special interest, because it will mark the completion of the first twenty-five years in the life of the college. Leaving a full review of the period to be more fitly presented then, we may state now that during this quarter of a century nearly 2,000 young men have been for a longer or shorter period under its culture. Nearly two hundred will have completed the full course and been graduated. All these, both the partial and complete fruits of its direct work, may be reckoned as a clear addition to the results of higher education in the land. For in this time, partly through its indirect influence, as many young men, probably, have gone from this field to seek the benefit of older colleges at the East, as would, without the presence of this institution, have sought a liberal education anywhere. Nine-tenths of all who have enjoyed in any degree the culture of this college, have found their life work in the West. The remaining tenth are scattered over the wide earth, many of them filling places of important trust in connection with the pulpit, the public press, and the work of Christian missions.

During this period of twenty-five years, the financial resources of the college have grown, from the gift of the people of Beloit, according to their early pledge, of a site and first building, in value not less than $10,000, till, through the benefactions of many friends in the West and the East, the college has accumulated a permanent property estimated at more than $225,000,—its running expenses having been, mean time, kept up, by close economy and careful management, without incurring debt. This sounds small by the side of the millions set down to some of the New England colleges. But here, it is a sign of some strength. It answers well the purpose of the "dimension stones" at the bottom of the foundation, on which the walls of a goodly structure, yet to be builded up, may safely rest. Its value is enhanced by the consideration that a great part of the funds thus far gathered, is the fruit of real self-denying devotion to the great interests which the college represents; and rich spiritual blessings, above all price, have come in answer to the fervent prayers which acccompanied and followed the gifts of God's people.

The object of the college is defined to be, "to make thorough work with young men in the training part of a liberal christian education," and a few pages are devoted to the expansion, and comment upon this thought. The article then proceeds as follows:

There are embarassments which hinder the attainment of this object, especially as respects the numbers of those who come into and go through the full course of training. Prominent among these is the fact that the object itself is but partially understood or appreciated. On the proper field of the college, there is now probably a population of one and a half millions. It has grown to this number within thirty years, chiefly by immigration. The early emmigrants were mostly young people, characterized by general intelligence, great energy, and indomitable spirit; but the proportion of liberally educated men among them was much less than was found among the early pilgrims of New England, or than is now found among the citizens of the Eastern States. Many strong, vigorous minds have been developed by a practical training under the pressure of immediate responsibilities thrown upon them. They have done well, and are highly to be honored for what they have made of themselves. Yet through the whole frame-work of society, there is an obvious lack of those ideas and sentiments which are the fruit of broad liberal culture. Hence the aim of the college fails to be fully appreciated. Not many parents seek its benefits for their sons. Not many young men set their aspirations in this direction, till they come within the direct influence of the institution.

The last remark suggests another embarrassment from the want of academies and schools in which young men can be prepared for admission to college. If this region were dotted here and there, as New England is, with institutions like the two Phillips Academies and Williston Seminary, the embarassment just referred to would be very much relieved. These would be so many centers of influence working all the time on the public mind, in full harmony and co-operation with the college, and sending year by year recruits for college classes already initiated in the training process. But this help is, in great measure, wanting. Four-fifths of all who have been graduated at Beloit, were dependant on the college for the preparatory as well as for the advanced culture. During these twenty-five years, public school systems of a high order have been established in each of the two States. These are doing much to promote general intelligence. The friends of the college have been foremost in helping on this movement, and none rejoice more heartily than they in the results. Yet it must be confessed that not much aid comes from this quarter to further the direct object of the college. So much are the teachers of all grades, even those in the High-schools, under the general influences first referred to, that in very many cases a boy's thought and desire for a collegiate education would be repressed rather than encouraged. Through the thoughtful and timely suggestions of teachers, hundreds of bright, active minds might be induced to seek that liberal culture which would expand and enrich their own souls and send into society trained leaders, whose influence would leaven the mass with elevating and refining elements.

We will name only one other embarrassment. It comes from the rapid development and material prosperity of the region, in the form of a strong temptation to young men to cut short the time given to their intellectual training, that they may hurry into active business. Amid the distractions of bustling enterprise around them, with the prizes of wealth, office, and power, apparently within their reach, and laboring often under the embarrassment of pecuniary resources, it is not strange that many, started on the college course, should grow impatient of the long road before them and turn aside, and that many others should be deterred from starting

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at all. It happens thus that college classes, on an average, lose half their numbers on the way, and it is sometimes difficult to sustain the interest and spirits of those who remain.

These are real embarassments; yet there is a brighter side even to this condition of things. The life and activity characteristic of a new country furnish excellent material for the college to work upon, when brought within its range. Those who come to college, come of their own accord and with a purpose, and they respond kindly and heartily to the efforts put forth for their thorough training. The people generally, if their ear can be gained and the merits of the case can be fairly laid before them, are quick of apprehension to take up right ideas; and many of those in prominent stations, to which they have lifted themselves without the benefit of early education, concious of their own deficiencies, join with earnest zeal in commending and supporting a genuine college work.

Sustained by these encouragements, amid the embarassments named, the college has held on its way, true to its own ideal, confident that the sure way to success was to keep the standard well up. The results which already appear are very cheering, and exceed the brightest expectations of its founders. By the steady maintenance of its standard, and through the influence of its alumni and others who, in attendance on its instruction, have understood its aim, the community has been in a considerable degree educated to appreciate its object and divine its advantages. And now for its future enlargement and increased usefulness, its immediate *wants* may be indicated in a general way under three particulars. There is needed, first, the active influence of educated men, especially of ministers of the gospel, in the region, to give to parents and their sons right ideas of what a liberal education means and of its value. The work of the college has been much aided in this way, but vastly more would be done if all felt a personal responsibility in this matter. Why should not each pastor charge himself with the duty of seeing that his flock, however small, be constantly represented in the college by at least one earnest student? Why should he not enlist the teachers in the public schools to co-operate with him for this end? The effectiveness of such influence has been abundantly illustrated in the history of older colleges in the East. The considerations before suggested, make it of the highest importance for all true college work in the West.

The second immediate want of Beloit College is a distinct foundation on which its preparatory school can be set up, separate from the college, yet under the direction and control of the college trustees and faculty. This is needed that the legitimate object of the college, as defined in this Article, may stand out to the apprehension of both students and the public in its distinctive characteristics. With such an arrangement, too, the restlessness which naturally springs from long familiarity with one set of instructors and one routine of duty, prompting the student to break off in mid career, will be relieved. Faculty and students will engage with more zest and zeal in the studies of the college course, the standard of scholarship will be raised and the thoroughness of the training will be enhanced. It is believed that the moderate sum of $25,000 will provide for this object. Is there not some one among the readers of this Article who will love to give his money and his name to such a foundation?

Then there is the great want, ever pressing, of additional endowments, for the immediate relief and for the necessary enlargement of the college. With the closest economy, the current expenses of the institution exceed the reliable income by nearly $2,000 each year. The deficiency has been met by the avails of outstanding general subscriptions and miscellaneous property—a resource which must soon be exhausted. Rightly to fulfill its object, the college must rapidly enlarge its operations: a foundation is needed for the support of a librarian and treasurer. Its corps of instructors must be increased, that the pressure on the members of the faculty of double duty in daily exercises may be relieved, so that they can advance their own culture, and come with ever fresh life and interest to their work. Such enlargement is essential to keep the prestige already gained, and to give the institution steady growth, proportioned to the growth of all things around it. The very life of a college, as of all other living things, depends on such growth. To meet deficiencies and to provide for this necessary enlargement, that the college may have a fair start for its next quarter century of living progress, the sum of $100,000, to be added to its permanent endowments, is imperatively needed, and earnestly sought for. What safer place for permanently productive investment can be found? What nobler monument can a faithful steward, entrusted of God with wealth, desire, than to have his name and memory identified with the life and growth, and perennial, precious fruits of such a Christian college?

THE LORD RECTOR'S INAUGURATION.

[The following in reference to the inauguration of the recently elected Rector of Edinburgh University, is from the correspondence of the *Dalhousie Gazette*.]

About sixteen hundred students assembled to greet Sir William Stirling-Maxwell. A few went to hear his opening address, the great majority to prevent its being heard. In itself the address was neither very good nor very bad. It contained some very excellent remarks, but on the whole was scarcely worthy of a man of Sir William's eminence and learning. It was of no great consequence, however, what its quality was, for whether good or bad, it was not heard. Showers of peas, thundering applause, vehement hisses, the sound of many voices, and even music leaping upon the enchanted air, all combined to prevent the Lord Rector's words from reaching any persons who were outside of a favored circle within a few feet of himself. No two sentences were read without an interruption. Either a cock crew or a dog barked, or a great "Oh!" resounded through the Hall; and the students evinced their keen appreciation of the ridiculous by laughing loud and long at each of these exhibitions of wit, although our Nova Scotian ears could detect no sufficient cause of laughter. Perhaps the most amusing part of the ceremony consisted in the highly artistic performance of "the Band." A few of the Medicals (I think) had provided themselves with musical (?) instruments. One had a tambourine, another a penny-whistle, and the third the melodious bones, while trumpets of all kinds were very abundant. The *artistes* modestly took their seats in a somewhat retired corner, and thinking that there should be something to break the monotony of cock-crowing, dog barking, Oh!-crying, and lecturing, introduced at the end of every paragraph of the lecture a highly original, and, no doubt, to one of cultivated taste, a pleasing symphony. Never was there a more appreciating audience. The words of the eloquent lecturer, dropping like honey from his lips, were unnoticed, while those who should have been eager to catch them as they fell, rewarded with a round of applause his rivals, the musicians. Any extraordinary noise in the rear of the Hall was considered by the students to be quite sufficient reason for rising to their feet, turning their backs upon the Lord Rector, and crying lustily "Put him out;" while every witty comment on the address, which among all this confusion was being read, elicited audible assurances of admiration.

Meantime the professors sat with their countenances at first expressive of amusement, then of dissatisfaction and finally of righteous indignation. They seemed to think that this great disturbance was a little "to much of a good thing." Prof. Maclagan especially testified to the intensity of his disgust by leaving the platform and himself ignominiously expelling from the Hall one of the youngest and most orderly of the students. Prof. Masson too, with the assistance of his eye-glass, frequently looked daggers at the leader of the musicians; and at length, his love of order getting the better of his judgment he descended from the platform and made for the Heathen Chinee. He had reckoned, however, without his host. The students rose to their feet, and calling upon him to return to the platform, at length forced him to obey their polite request without having had his peace-making efforts crowned with even so much success as had attended those of his daring but misguided predecessor. Such was the character of the first Rectorial Installation which I had the pleasure of attending.

DR. ZINA PITCHER.

Dr. Zina Pitcher, who was regent of Michigan University from 1837 to 1852, and was largely instrumental in building up the Medical Department of that Institution, died at his home in Detroit, after a lingering illness, on April 5th. Dr. Pitcher was the son of Nathaniel Pitcher and Margaret Stevenson, and was born April 12, 1797, in a rural section of Washington county, New York. At the age of 21 Dr. Pitcher commenced the study of medicine, in the office of a private practitioner, where the next ensuing four years were passed, except whilst in attendance upon two courses of lectures at the Castleton School of Medicine in Vermont, until he received the degree of M.D. in 1822 from Middlebury College. On entering upon professional studies the necessity of classical training as a qualification for such a pursuit became so obvious that he engaged a fellow student to act as his private tutor, under whose direction he continued a course of preparatory study, and at the same time kept abreast with his colleagues in their joint professional investigations. Immediately after obtaining his medical diploma he received from the administration of President Monroe the appointment of Assistant Surgeon in the army. He retained his position in the army until the close of the year 1836, having been promoted to the rank of Surgeon under the administration of Andrew Jackson. During his period of service in the army he was stationed at different points on the Northern Lakes, on the tributaries of Arkansas, among the Creeks, Cherokees, Choctaws, and Osages, and at Fortress Monroe in Virginia.

On becoming a citizen of Michigan, in 1836, which had just then adopted a State constitution, he at once took a conspicuous part in the organization of her institution of learning, provided for by the United States in the appropriation of lands ceded to the General Government by the State of Virginia when she relinquished her jurisdiction over the Northern Territory. For this purpose he sought the appointment of Regent of the University, which trust he held from 1837 to 1852. During this time the University was organized, the Medical Department of which was essentially the work of his hands. When the members of that Faculty were appointed he allowed his name to be placed on the catalogue as an Emeritus Professor.

In 1839 he was invited by Mr. Poinsett to serve as a member of the Board of Visitors at West Point, and his political friends elected him to the office of Mayor of Detroit in 1840, and again in 1841 and 1843. Before his second term had expired he prevailed upon the members of the Common Council of the city to unite with him in petitioning the State Legislature, which then held its session in Detroit, for the enactment of a law to authorize the establishment of public schools in the city of Detroit. The accomplishment of this object he considered the achievement of his life. In 1859 he was appointed an examiner of the mint by President Buchanan, and from 1848 to 1867 he performed the duties of physician to St. Mary's Hospital, and also of Surgeon of the United States Marine Hospital at Detroit. He was at one time president of the American Medical Association and attended many of its meetings. The later years of his life were spent in Detroit in the practice of his profession. His literary work was mostly addresses and contributions to the various medical periodicals, especially to the *Peninsular Journal* of which he was at one time one of the editors.

Dr. Pitcher was at various times elected member of different medical societies and scientific organizations. He enjoyed likewise to a marked degree the confidence and esteem of his fellow citizens. After his death a large meeting of the physicians of Detroit was held at the office of the Mayor where eulogies were made by several speakers, and appropriate resolutions passed. His funeral was largely attended on the afternoon of Monday, April 8th.

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SCIENTIFIC.

The Preparation of Pure Dextrine.—A really good article of dextrine is of so much value in the arts, that the following process of O. Ficinus deserves attention: Mix 500 parts of potato-starch in 1,500 parts of cold distilled water and 8 parts of pure oxalic acid. Place this mixture in a suitable vessel on a water-bath, and heat until a small sample tested with iodine solution does not produce the reaction of starch. When this is found to be the case, the vessel is immediately removed from the water-bath, and the liquid neutralized with pure carbonate of lime. After having been left standing for a couple of days, the liquid is filtered, and the clear filtrate evaporated upon a water-bath, until the mass has become a paste; this is removed by a spatula, and, having been made into a thin cake, is placed upon paper and further dried in a warm place; 220 parts of pure dextrine are obtained.—*Handicraft.*

Chimneys and Globes for Gas-Burners.—The inventor M. T. Trudeau, describes a system for the construction of more perfect gas-burners, securing a steady flame, by adjusting the lower opening of the chimney or globe so as to admit a steady and equable current of air, in place of the obstructed and disturbed currents which reach the flame through the fixtures in ordinary use. He secures, 1. A steady light at a very low, and consequently economical, pressure. 2. More complete combustion of the injurious constituents of the gas. 3. The lower opening of the globe, etc., being larger, permits more light to pass downward, and facilitates cleaning the globe. 4. The limited height, and large upper opening of the globe, etc., diminish the risk of fracture by unequal expansion. The inventor gives full directions for constructing globes and chimneys, according to his system.—*Journal de l'Eclairage au Gas.*

Phosphorus Bronze.—Some recent experiments, made for a committee of the French Academy, upon the properties and merits of the application of the new alloys containing phosphorus, have resulted very favorably. One of these experiments was the bursting trial of a six pounder cannon of phosphorus bronze cast at the royal foundry at Liége; the result showing that under the charges the regulation piece had burst, while the new gun could be fired with perfect safety. The bronze employed was made by adding phosphorus copper to metal coming from old guns. From the great hardness, toughness, and stability of the new compounds, as evinced by these as well as other trials, it is safe to conclude that their future applications will be very numerous. As an example of the application of the bronze in machinery, it is stated that a pair of piinons of universal rollers had been used for ten months and were finally destroyed by the wearing away of the teeth, none of them having been broken or split. It has also been successfully applied for the collars of hydraulic presses, eccentric rings for locomotives, pistons and bolts for steam cylinders, etc.—*Scientific American.*

The New Phosphorus Light.—Attempts have at various times been made to produce an artificial light which would serve as an efficient substitute for day light in photographic operations. The electric light, the magnesium light, the lime light, and light produced by the rapid combustion of sulphides etc., mixed with chlorates and nitrates, have all been tried, but objections have been found to them all. The most recent candidate for favor is a light produced by the combustion, in pure oxygen, of a mixture of phosphorus vapor and coal-gas. The apparatus resembles somewhat the old Bude light lamp, and consists of a stout cast-iron vessel in which the phosphorus is vaporized by means of a Bunsen burner. Into this vessel a stream of common coal-gas is led through a proper pipe, another pipe at the top of the vessel serving for the escape of the mixture of gas and phosphorus vapor. Through the center of the escape-pipe is carried a tube which conveys a current of pure oxygen to the middle of the flame, and in this way a light is obtained which, in power, far exceeds the best calcium lights. Those who have seen phosphorus burned in pure oxygen in a glass globe, will be able to appreciate the effect produced by a sheet of phosphorus flame five or six inches broad and fourteen to eighteen inches high. It is not improbable that a stream of hot vapor from some of the hydro-carbons would prove superior to coal-gas. Naphtha or gasoline might be tried.—*Handicraft.*

Meerschaum.—At the Berlin Geographical Society's December meeting, M. Ziegler described the sources whence the considerable annual supply of meerschaum for meerschaum pipes is derived. Large quantities of this mineral, so highly esteemed by smokers, comes from Hrubschitz, and Oslawan in Austrian Moravia, where it is found embedded between thick strata of serpentine rock. It is found also in Spain at Esconche, Vallecos, and Soledo; the best, however, comes from Asia Minor. The chief places are the celebrated meerschaum mines from 6 to 8 miles southeast of Eskischehr, on the river Pursak, chief tributary to the river Sagarius. They were known to Xenophon, and they are now worked principally by American Christians, who sink narrow pits, to the beds of this mineral, and work the sides out until water or imminent danger drives them away to try another place. Some meerschaum comes from Brussa, and in 1869 over 3,000 boxes of raw material were imported from Asia-Minor at Trieste, worth 345,000 florins. The pipe manufacture and carving is principally carried on in Vienna and in Ruhla, Duchy of Saxe-Coburg-Gotha. The commercial value of meerschaum carvings at these places may be estimated at $2,000,000 annually. However, very large quantities of them are not made from genuine but from artificial material. The waste from these carvings is ground to a very fine powder, and then boiled with linseed oil and alum. When this mixture has sufficient cohesion, it is cast in molds and carefully dried and carved, as if these blocks of mineral had been natural. It is said that about one half of all pipes now sold are made from artificial meerschaum.—*Scientific American.*

The Mississippi Running up Hill.—It has been demonstrated that our earth is not a globe but a spheroid, that is, geometrically speaking, a body formed by the revolution of an ellipse around its shorter axis; hence the statement in the geographical text books that the earth is flattened at the poles. The amount of the flattening is, in round numbers, only about $\frac{1}{300}$ of the diameter, and thus next to imperceptible in a terrestrial globe of the ordinary size, being only one twentieth of an inch, or the thickness of a card board in a globe of 15 inches; therefore, no account is taken of this in the making up of globes. But if we consider that the earth is quite a large globe, being not less than 8000 miles in diameter, a flattening amounting to $\frac{1}{300}$ is about 27 miles—that is to say, the polar axis is 27 miles shorter than the equatorial diameter. Consequently, the polar radius is 13·5 miles shorter, and the people at the pole are 13·5 miles nearer to the earth's center than those at the equator. If now, for simplicity's sake, we accept that the distance from the center increases in the same ratio that the latitude decreases, (which is near enough to the truth for our purposes) the people at 30° latitude must be 13·5÷3 or 4·5 miles nearer to the earth's center than those at the equator; and those at 50° latitude must be 50°+13·5÷90°, or 7·5 miles nearer to the center. Therefore, at 50° we are 7·5—4·5 or 3 miles nearer to the earth's center than at 30°. The first latitude, 50°, corresponds nearly with the sources of the Missouri and Mississippi, while the latter, 30°, corresponds with its mouth. The mouth is thus 3 miles, or some 16,000 feet higher than its source, if the latter were reduced to the ocean-level of the spheroidal earth. As, however, the plateau in which the river has its origin is almost 8,000 feet high we have to subtract this, and we find that the uphill movement is still at least 8,000 feet; and, as it is some 4,000 miles long, the river runs about two feet per mile uphill.

The lower southern portion of this river is at least 8,000 feet higher than the upper northern part; but we remark in closing that this whole reasoning, about which some years ago there was quite an excitement among semi-scientific circles, rests on a false conception of that which we call uphill. If we mean by this expression to go further from the earth's center it would be all strictly correct; but we must not take the earth's center as the basis to refer to, but the actual ocean level, whether its form be spherical, spheroidal, or otherwise, and call only that uphill that goes farther above at the ocean level. In this view of the case the river in question, in starting at its source west of Lake perior, at a height of some 8000 feet above the ocean level, and reaching this level below New Orleans, descends on an average some two feet per mile, and in reality runs down hill as all rivers are bound to do.—*Manufacturer and Builder.*

The White Bessemer Flame Due to Hydro-carbons.—W. Mattieu Williams has published in *Nature*, a series of articles on the chemistry of the Bessemer process. No. 3 of the papers is especially upon the brilliant white flame of the second stage, which is totally different from the carbonic oxide flame produced by the combustion of carbon *per se*. He considers the whiteness due in a considerable degree to hydro-carbons. We quote: "We have one set of workshop facts and laboratory experiments which go to show that for the production of steel, hydrogen in the form of hydro-carbon is necessary. It is well known that coal gas, paraffin, and other hydro-carbons, are more efficient cementing agents than pure carbon. Dr. Percy found that the charcoal of sugar, which retained some hydrogen or hydro-carbon, readily converted iron into steel, but that the same charcoal failed to produce steel under similar circumstances, after it had been deprived of its hydro-carbon. It is well known that wood charcoal which has been several times heated in the cementing furnace, loses some of its power of cementation, and this has been attributed to the driving off of the hydro-carbon contained in the fresh charcoal. Again, it is found that when, by means of an acid, we dissolve the iron of steel or white iron away from its carbon, the residue is not simple solid carbon, but an unmistakable liquid hydro-carbon, an oil which, like other hydro-carbons, burns with a smoky flame. In this case it is possible that the hydrogen may be supplied to the carbon by the water or the acid. If so it presents an interesting case of the formation of what we usually regard as organic matter from inorganic materials. If on the other hand, the hydro-carbon exists ready formed in the steel and the white iron, the conversion of grey iron into white iron, *i. e.* of graphite into this hydro-carbon, is a still more remarkable case of the same kind. It is true that the hydrogen may be detected by a direct combustion analysis, but this does not reveal the mode of its existence. * * In the case of the Bessemer flame, we have a constant supply of air to a diminishing supply of carbon, and therefore, we may expect that there should occur in the white portion of the flame due to hydro carbon a change corresponding to that which would occur in Mr. Wilkinson's photometric flame, if, instead of a constant supply of coal gas mixed with an increasing supply of air, he maintained the air in constant flow and gradually closed the gas-cock. In this case there would not only occur a gradual diminution of the brilliancy but also of the dimensions of the flame. Such is the change which takes place in the Bessemer flame towards the end of the blow, and it so far confirms the hypothesis that a *considerable portion* of the white flame is due to the hydro-carbon. If it were due to the combustion of iron the white flame should increase towards the end of the blow, for it is then that the iron, when no longer protected by the more combustible carbon, begins to burn in a serious degree, just as I have shown that the full combustion of the carbon takes place after the bulk of the silicon has been oxidized.—*Scientific Press.*

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, APRIL 20, 1872.

THE annual meeting of the American Institute of Mining Engineers, will be held in New York city, commencing Tuesday evening, May 21st. The sessions of the Institute will be held in the building of the Cooper Union, the apparatus and lecture rooms of that institution, having been generously offered for that purpose. Authors of papers are requested to notify the secretary in advance of the meetings, giving the subject and length of their papers. It is expected that the meeting will be an interesting and profitable one.

THE next annual meeting of the National Educational Association, is to be held in Boston on the 6th, 7th and 8th days of August next. Three sessions will be held each day, the forenoon and evening being occupied by the General Association, and the afternoon by the four departments: elementary, normal, superintendence, and higher education. A full announcement of the arrangements which are being perfected by the officers will be made in due time. It is expected that several of the most important educational topics which are now being discussed throughout the country will receive attention, and no labor will be spared to make the meeting a successful one. We shall try to keep our readers posted in regard to developments as they may occur.

THE removal of the Theological Seminary at Greeneville, South Carolina, to some place in Tennessee or Kentucky has been agitated for some time. As we are informed, the Seminary has done a good work where it is, but is in serious financial embarrassment. Offers of assistance have been made, if it will remove as above stated, and there seems to be a prospect that it may be done. A convention of representative men from Western Tennessee, Northern Mississippi, and Arkansas are expected to meet at Memphis on the 20th of May next, to decide the matter. The project seems to be a part of a movement among the Baptists of the south-west to establish a university at Memphis or Nashville, or some other central place, this seminary to be one of its component parts.

HARVARD seems to be still determined to know the best methods and to furnish the most liberal advantages that are practicable. Its latest movement looks toward the admission of women to its courses of study. As is detailed in another column, the Board of Overseers of that institution at their recent meeting passed a resolution that a committee be appointed to inquire into the practical operation of the system of the education of the sexes, and report their opinion as to its adoption in Harvard. We shall look with some interest to the composition of this committee, which is not to be announced until the early part of May, and to their report when made. It would, of course, be idle to speculate upon which way the report will turn, but we hope it will be made only after full and thorough investigation, and that the opinions given will be fortified by plain facts and logical reasoning. Meanwhile, whether the report is favorable or unfavorable to coëducation, the appointment of such a committee by the Board of Overseers of Harvard College is a significant fact.

A memorial upon the subject of higher education has recently been addressed to the University of Cambridge, England, which if practicable and well carried out, would seem to promise some good results. The memorial was adopted at a public meeting at Birmingham, and asks that a syndicate be appointed to investigate the subject, and also, to inaugurate some means which will produce a standard of excellence in the departments of Literature, Science, and Art. This standard is to be fixed by some universally recognized authority, and to be such, that students may attain to it. This arrangement, it is claimed, would secure for the studies of these students the definiteness and thoroughness that are so much needed. Secondly, the memorial asks that an opportunity be offered to all who may desire it, of bringing their acquirements to the test of an examination; and thirdly, that teaching power of high order be made accessible to those who might wish to place themselves under instruction. Such a scheme as this, it seems to us, would not only prove a valuable spur to the exertions of students of all grades, but also, if made comprehensive enough, would be very useful in showing how far each student had progressed. Whether a standard of excellence which would be acknowledged by all could be formed, remains to be seen.

WE ARE pleased with the unanimity and harmony which seemed to mark the proceedings of the convention of the College Rowing Association at its recent meeting. The fact that such a convention has been held without any serious differences or disaffections is, it seems to us, worthy of note. But there are one or two points in which the action of the Convention might have been better. And first in regard to what constitutes a college crew. It is of course, natural that the smaller colleges should wish to have the number from whom their opponents are chosen as small as possible. But the argument used in this case, viz: to bring the colleges on a level, as much as possible, is an argument against the size of the larger colleges. Exact fairness in the matter of the number from whom the crew is chosen, is from the very nature of the case, impossible. That some colleges have more students than others, is not their fault; it is rather the misfortune of the smaller colleges, that they are so small. If they will row with the larger colleges, the latter ought not to be made responsible for their misfortune. And, it seems to us, that the same argument that would restrict the crew from any institution to the Academical Department, would also reduce the number of students from whom the crews are to be chosen in the Academical Departments of the various institutions to the same number, a number corresponding to the aggregate of the attendance at the smallest college that enters the regetta. Moreover, the smaller colleges, where at least, the institution has only an Academical Department, have the right to choose a crew from the whole body of the students, and why, if their size be not considered a crime, should not the larger institutions have the same privilege. It may with seeming point be urged that the desire is to render the competing colleges as near equal as possible. They, of course, it may be said, cannot be equal, but we would make all the previous conditions to success, as near alike as may be. But if we may judge anything from the race last year, in which Amherst Agricultural vanquished Harvard, the size of the institution has nothing to do with success, unless, forsooth, the smaller colleges, for some unknown reason stand the best chance. However, the decision has been made, and we shall therefore probable have for this year, the spectacle of whole colleges rowing against parts of others. The question seems to be an unavoidable concomitant of a regetta, composed of both large and small colleges. The decision, as reached, is rather unfortunate for Yale, since she has recently compehended the whole University in her club, and if she enters the coming regetta, must now form a new club. With regard to the style of the race, whether strightway, or turn around one or more stake boats, we would say that the former seems to us far the more preferable. A race around a single stake boat should not, it seems to us, be for a moment thought of, and we know of no place where nine crews could each have their own stake boat. We earnestly hope therefore, that the committee in whose hands the matter rests, will choose such a course, that a fair straightway race may be pulled next July.

THE NEW MEMBERS OF THE CORPORATION.

The election of six new members of the Corporation of Yale College is far the most important matter which will come before the Alumni at the Commencement of this year. All are familiar with the agitation of the subject, which at one time threatened to split the graduates into two opposing factions, each more intent on the success of its own ideas than that of the college itself. This danger has been happily averted. By a conjunction of favorable circumstances the younger portion, and, as we think, the majority of the graduates were granted their wish that representatives elected by themselves should belong to the governing board of the institution. The first point has been gained. But there is clearly danger that all the advantages which had been hoped for and expected from this change in the constitution of the college, will be practically thrown away. It is not by the ability to elect men to represent them but by the character of the men elected that the success of the agitation will be tested. It is not only not too much to say that no satisfactory ticket has as yet been presented—and we have printed several in our columns—but there is great reason to fear, from present indications, that none will be elected. Owing to the enormous number of graduates, the impossibility of much consultation and communication, a large number will vote without any clearly defined views of what qualities ought to be required in the men they are voting for; and the choice of representatives, left to chance or the accidental influences which may be prevalent at a particular Commencement, will be likely to reach a result unsatisfactory to the graduates and of no advantage to the institution.

There are, of course, many dangers to be guarded against; but two are of overshadowing importance. One of these has already been referred to several times in our columns by various contributors, but the subject will bear still further examination. We refer to the tendency that will be apt to prevail of having candidates from different sections of the country. According to this arrangement Cincinnati and its neighborhood should have one representative, Chicago and its neighborhood one, the Pacific coast one, and so on through the whole Union. As there is no State where there are not numerous graduates of Yale, there is necessarily no limit to the number of sectional candidates that can be brought forward; and if such a principle of selection should once be established, it would pretty clearly end in making the representation of the graduates in the corporation a complete nullity. For men will not come from great distances to take part in the meetings of the governing board of any institution. They can often neither afford the time nor the expense, and even when they can do both, they will be apt to content themselves with the excuse that there is nothing of serious importance requiring their attention, certainly nothing which will be worth so much trouble as a long journey necessarily involves. For a time, indeed, the pressure of the responsibility resting upon them might be felt sufficiently to cause them to forego all considerations of personal convenience. But this would be felt only for a time. The result in the end would be that the government of the institution would be left practically in the hands of the trustees residing in Connecticut or the States adjoining. They are always on the ground; they can be summoned at any moment; attendance at any meeting would involve but little loss of time and little personal expense; and they would necessarily be far better acquainted with the matters that come up for consider-

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ation. Moreover, it is absurd to suppose that the graduates of any part of the country would be any better represented by a man belonging to their section, than by one living in the farthest corner of the United States. It is the interests of the college and of the cause of education that are to be studied; not the interests of any city, or State, or district.

At the same time it must be admitted that if any one is willing to perform the duties involved in the position, the distance at which he lives forms no valid objection to the choice. Our remarks apply rather to that general tendency which is manifesting itself to select men who live in different sections of the country, because they live in different sections of the country, and not because they have any special qualifications for the post to be filled. Great as is the danger from this source, there is still another and a far greater danger. This is, that men will be chosen who have become eminent in some sphere of political or literary life, but who so far from having any special knowledge of the wants of the college or any special interest in its prosperity, are completely absorbed in their own affairs. Now the tendency has been and will be to take just such men. They form the large proportion of the names that have already been put in nomination. It is exceedingly natural that this should be so. Graduates, uncertain for whom to vote, will be very apt to select men from their own ranks not because they are fitted for the position or have any desire to discharge its duties, but because they have become prominent as lawyers, senators, or clergymen. There would be no special objection to this, were it not that in every case the time of such men is so thoroughly taken up with the many calls made upon them that they would have but little leisure to administer properly the affairs of an institution, which has become so great as Yale, and which is now so rapidly expanding. If they could be got to be present at the meetings of the board at all, they would come up to them ill-advised, ill-informed, in a hurry to get through and attend to other matters of their own which would seem to demand their immediate action. They would thus vote without due examination, and necessarily as they were told by men in whom they have confidence. It might be a right vote or a wrong vote, but in no case would it be an intelligent vote. We aee sure that we speak the real sentiments of the graduates of Yale when we say that we want no man elected to the post of trustee of this institution who is not willing to give up to the consideration of its interests no small share of his thoughts or his time. Such men there are, we feel sure; and we feel equally sure that with them on the governing board the college would enter on a new era of prosperity. But it will rarely be the case that they will be found among the list of prominent graduates.

In view of this it becomes a matter of no small difficulty to select the right men. We are told by some that no one should be voted for who is not well known to the great body of the graduates. But outside of a few prominent men, who are well-known to the great body of the graduates? From the very nature of things this would shut out from the board of trustees any representatives from the younger classes. The reputation of men among them is yet to be made. But the recent movement for the raising of the Woolsey fund shows conclusively that there is more enthusiastic devotion to the college in their ranks, than among the older graduates—enthusiastic devotion, we say, but perhaps we might justly say devotion without any qualification. It would be a misfortune, it seems to us, almost irreparable, if this feeling now strongly exhibiting itself among the younger classes should not have a conspicuous representation on the new board; but it certainly cannot be done if only names well known to the great body of the alumni are to be voted for. Moreover with the graduates of this institution scattered all over the United States, a man of high repute in one section is likely never to be heard of in other sections, unless peculiar circumstances have happened to make his name prominent. This is especially the case with men in business life, a strong representation of whom in the new board is a matter of the utmost importance with the vast amount of property under the control of the Corporation. Let us take one instance. In Connecticut, Frederic J. Kingsbury of the class of 1846, President of the Scoville Manufacturing Company is a name that springs almost spontaneously to the lips of the graduates residing in that state as a man eminently fitted by character, judgment, and business capacity for the post of trustee. We know that some of the most prominent and judicious members of the faculty look upon him as one of the most desirable men that could be selected for that position. And yet it is idle to pretend that he is known to the great body of the graduates scattered from one end of the Union to the other. And we might multiply many such instances.

Last week we published in our columns an exceedingly valuable communication from Professor Dwight of the Theological Department in regard to the principles which should govern the graduates in their selection of trustees. While most cordially commending it in the main, it must be conceded that in regard to one point made by him there is great difference of opinion. We publish in to-day's paper a communication from Professor Whitney who takes exception to one of the propositions laid down by Professor Dwight, and to this we call the attention of our readers, as it relieves us from saying anything in particular on the subject. But we are bound to add that whether members of the faculty are elected on the board or not, it is eminently necessary that representatives from the various departments should be present at the meetings of the corporation by the request of that body, and should be allowed to participate in its deliberations, though shut off from casting a vote. This is a matter of both justice and policy which can not much longer be delayed. It is idle to say that the president, the nominal head of all the departments, can be the real representative of more than one, so long as he is under the necessity of giving instruction in one, and finds no time to attend the deliberations of all. It is asking of one man more than any one man living is able to perform. With a body of subordinates to aid him and the Corporation, consisting of a delegate from each one of the departments, there would be no danger that any thing of importance would be passed over, that no just claim of any department would be neglected, that the fullest and most accurate information in regard to the whole institution would not be readily accessible. We are loth to believe, however, that the present Corporation has attempted to put any restriction whatever on the choice of men for the position. The language of the law is plain and indisputable, and any evasion of it by any sort of device would provoke a just indignation from the whole body of graduates, and check the current of loyalty that is now running strongly toward the institution. We have no patience with that sort of spirit which looks upon the graduates of Yale as men to be dreaded, who must have their actions marked out for them as carefully as if the college still stood to them in the relation of parent. We think the Alumni of this institution can be trusted to consult their own honor and the interests of their Alma Mater, without having any restrictions placed upon their actions; and if by mistake or accident an unfortunate selection should be made, if the ten clergymen who form the majority can not keep things in their own hands, they had better resign and give place to others that can.

At the request of various friends we append to this article a list of names in addition to the many that have already been given in our columns. We have no idea that any body of men can be selected against whom some will not find objections, and we have no intention of denying but what many men might be found who are better than some of those mentioned here. But we believe that there is no one included who would not discharge worthily and zealously the duties of the office n case he were elected; but we shall gladly add the names of any others our correspondents send us, having no idea whatever of nominating a ticket, and only desiring to make known to the whole body of the graduates the names of some of the most suitable men for the post. We have preferred to take most of these names from the later classes. Names of graduates in the earlier classes will occur to all.

Hon. J. H. Trumbull, class of 1842, Hartford, Conn.

Frederick J. Kingsbury, class of 1846, Waterbury, Conn., President of the Scoville Manufacturing Company.

Hon. Dwight Foster, class of 1848, Boston, Mass., formerly judge of the Supreme Court of Massachusetts.

Prof. D. C. Gilman, class of 1852, of the Sheffield Scientific School, Yale College, New Haven.

Alexander H. Stevens, class of 1854, Cashier of the Gallatin National Bank, New York city.

Mason Young, class of 1860, lawyer, New York city.

Wm. Walter Phelps, class of 1860, lawyer, Englewood, New Jersey.

Rev. Wm. G. Sumner, class of 1863, Morristown, N. J.

M. Dwight Collier, class of 1866, St. Louis, Missouri.

To this list which might be largely increased, we ought perhaps to add the name of Rev. J. H. Twichell of Hartford. But there are already eleven clergymen permanently on the board, and it is hardly probable that Mr. Twichell will fail in time to be elected by the clerical members themselves, if he continues to be a resident of the State. With two cautions we close. One is that the names must be sent in by the first of May; the other is, that a nomination is not an election. When the names of the men nominated are before us, then there will be time to discuss their special qualifications. For that reason the more names that are furnished the better.

PROFESSORS IN THE COLLEGE CORPORATION.

The views of Professor Dwight, put forth in last week's COURANT, respecting the election of Fellows of Yale College, by the graduates this summer, will in the main commend themselves to the acceptance of the great body of graduates. But there is one among them against which I should like to raise an opposing voice, and at once, lest the impression go forth that it represents the universal opinion of the college instructors. I refer to the exclusion from candidature of any person who is himself a college instructor. Far from the presence of Professors in the Corporation being obviously undesirable, I think, and there are others who think with me, that nothing would more conduce to the harmonious and successful working of the administration. There has been too great a gulf between the Corporation and the several bodies of instructors. The President cannot, in the nature of things, fairly and fully represent all those bodies in the board of final appeal, because he takes part in the deliberations of only one of them. If he brings up any matter affecting the Academic Department, he understands the circumstances which suggest the proposed action the considerations for and against it which have been weighed in the councils of the faculty; but he does not enjoy this advantage with respect to the affairs of any other department. The inconvenience of this condition of things has been less felt, because the affairs of the Academic department have hitherto far outweighed in importance those of all the others together; but as the latter grow, and the college expands into a University, it will be more and more forced upon attention. The theological school cannot but have felt the advantage during the past few years, of having one of its faculty in the general governing body, nor have I heard that anything but good has ever come of it. I should, I must confess, like to see the usage thoroughly established of having among the Fellows a representative of each of

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the grand branches of the University, who should be the President's aid in bringing forward matters relating to that branch, and stand ready for interrogation as to the reasons and bearings of any new measure concerning its particular interests. The only objection urged against what is here proposed—namely, that one Professor would thus be entrusted with power over his associates, appears to me destitute of force, resting on a complete misapprehension of the relation of the selected representative to his associates: he would be to them a friend at court only; not a ruler over their heads, but their spokesman and advocate. The yoke of the Corporation has never rested heavily on the faculties; it has been a body of friends to be enlightened, not of meddling managers among whom a Professor might not be trusted lest he imbibe their tyrannical spirit.

That the corporation themselves have "made provision against the admission of any such person" is not easily to be credited upon the mere "understanding" of an outsider. They have not given notice to that effect in prescribing the mode of election; and the law under which the election is held declares that the persons chosen by the graduates shall be Fellows, and confers no power to restrict their choice.

W. D. WHITNEY.

Yale College, April 15, 1872.

CONVENTION OF THE COLLEGE ROWING ASSOCIATION.

The second annual convention of the American Colleges interested in boating was held at the Bay State house, Worcester, Mass., on Friday, 12th instant. The meeting convened at 12 o'clock, with Mr. C. C. Luther, Brown, '71, in the chair. Harvard, Brown, Bowdoin, Amherst, Williams and Mass. Agricultural College were represented, Troy Polytechnic being the only one not answering to the roll. Delegates from Cornell, Yale and Trinity being present, were admitted at once into the organization The election of officers for the ensuing year resulted in the selection of Mr. A. Tucker, Harvard, President; Mr. P. C. Chandler, Williams, vice-President; Mr. W. F. McCook, Yale, Secretary; Mr. E. H. Luther, Brown, Treasurer. A regatt a committee, consisting of one representative from each college, was chosen to arrange the preliminaries of the race.

Considerable difficulty was experinced in fixing on a day for the race, Harvard and Brown wishing to have it early in July, while Bowdoin found it impossible to row before the 20th of that month. This being Saturday, and Bowdoin giving every assurance that she would enter the race, Tuesday, 23rd July was finally fixed upon.

The convention now adjourned an hour for dinner, to give an opportunity to appease the characteristic appetites of the boating men. It is hardly necessary to state that they did not return within the stated time. On reassembling, the first question brought up was as to the character of the race. Opinion seemed almost equally divided between a straight-away and a turning course, with a stake-boat for each crew. The vote resulted in favor of the former. The convention found it impossible to select at present a place for the regatta that would be satisfactory, and therefore constituted a committee of the captains of the crews intending to enter the race, Mr. McCook being chairman, whose duty it is to select a course and report by the 1st of June. The action of the convention in regard to the straight-away course was rescinded, and the power to decide the style of the race was also delegated to the committee of captains.

Next came the most important decision of the convention, viz., that of limiting the competing crews to men from a single department. In the discussion of this point the delegates became quite excited, and for half an hour a lively time ensued. The larger colleges very naturally were in favor of choosing the crews from the whole college. They urged that, as the race was to decide the superiority in boating of the different colleges, they were entitled to a full representation of their strength, and any restriction limiting them to a choice from a part of their numbers placed them in a false position before the public, and rendered the result of the race unsatisfactory, as not being a full and fair test of the strength of one college against that of another. It was also urged that, as the stated object of the Association was to foster and improve boating in the colleges, the proposed movement defeated this object, and lowered the standard of boating, by causing some of the colleges to weaken their crews. To these arguments the smaller colleges took exceptions. The vote on the question of limiting the crews to a single department was decided in the affirmative; Brown, Amherst, Williams, Mass. Agricultural, Cornell and Trinity favouring, while Harvard, Bowdoin and Yale opposed.

A By-Law was adopted, by which any member of the Association not entering the Regatta loses its vote in the following convention; also any member not represented in two succeeding regattas, loses its membership. After this, the convention adjourned to meet again at the same place on the first Wednesday of April 1873.

LITERARY.

Messrs. Sheldon & Co., New York, announce that they will have ready to-day, "Spurgeon's Sermons," 9th series, a 12mo volume, at $1.50; and Dr. Conant's great work, "The Book of Proverbs." This work will be issued in two parts; Part I, containing the Hebrew text, King James version, and a revised version with an introduction and notes, critical and philological; and Part II, containing the revised version, and an introduction, and notes explanatory, the whole in one volume, quarto, for $4.00. Part II is published separately, for $2.75. The same firm will have ready on May 10th, "The Nether Side of New York." By Edward Crapsey. Paper, $1.50; Cloth, $1.75.

Periodicals.—The *New Englander* for April, the second number under the new board of editors, is a somewhat larger number than usual. The leading article, "The Antagonism of Religion and Culture," is founded on Principal Shairp's "Culture and Religion in some of their Relations," and is written by President J. M. Sturtevant of Illinois college. Rev. Dr. O. E. Daggett, of New London, Conn., contributes a somewhat lengthy article on "John Woolman." Rev. Dr. Martin, of the Imperial college, of Peking, China, treats of the "Style of Chinese Prose," concluding his article with the trust that the time is not far distant, when the language of China will have a place in all the principal seats of learning, and when her classic writers will be known and appreciated. A. E. Krœger, of St. Louis, occupies 28 pages with an article entitled "Emanuel Kant." E. Janes, of San Francisco, has a second article on "Rothe on Revelation and Inspiration," in which he discusses Inspiration; Prof. Hoppin, of the Yale Theological Seminary, treats of the "Spiritual Element in Preaching;" and Rev. Dr. W. W. Patton of Chicago, discusses "The Doctrinal Basis of the National Congregational Council at Oberlin." From President Chapin's article on Beloit College, we make extended extracts in another column. Rev. L. W. Bacon, discusses a "Question in Congregationalism." A new department, "Notes and Comments" introduced in this number covers five pages, and touches a number of current topics. The "Notices of New Books," are in the main brief, but are vigorous and pointed. A large number of books are noticed.

Instinct in Animals.*—President Chadbourne has in his treatise or Instinct given us a volume of exceeding interest and rich in instruction. The work is in the form of lectures, having been actually delivered as such in the Lowell course. He has handled his subject with philosophical caution, in well-studied method, and in great richness and completeness. The style is simple, clear and popular. The volume is altogether attractive in matter and manner and is worthy of general perusal and study.

The nature of Instinct is not defined till its manifestations have been carefully investigated in all their diversity of modifications. It is at length defined to be "an impulse to a particular kind of voluntary action which the being needs to perform as an individual or representative of a species; but which he could not possibly learn to perform before he needs to act." It "includes all the original impulses, excepting the appetites;" and also includes "that knowledge and skill with which animals are endowed, which experience may call into exercise, but which it does not give." The appetites are regarded as functional and as proper conditions for the activity of certain instincts.

The operations of instinct are simulated in inorganic nature and on a still higher scale in plant life. The Catch flies from out a sticky fluid which holds the smaller insects. The Venus's fly-trap puts forth leaves fashioned to art like barbs for holding their prey. The Pitcher-plant beguiles down into its deep cavern along hairs pointing downward that hinder retreat. The provisions for the fertilization of plants, for the diffusion of the seeds, and for the securing of them in places favorable to their germination and development, are many of them exceedingly instinct-like. Plants, like some animals, even become protectors to other species of life; as the oak forms a gall or oak-apple which serves as a home and a feeder for the Gall-fly.

The first connection of Instinct with these instinct-like processes is seen in the provision for the nourishment of the young animal life. The raising of the head and the opening of the bill to receive food by the young robin, to which the act of the parent-bird in supplying the food is a corresponding act of instinct, is an example.

Pure instinct needs no experience. It goes before to preserve life until knowledge from experience is possible. It works by a wisdom of which its possessor has no apprehension. The theory of transmitted skill involves an ancestry certainly of marvelous ingenuity. How did they come by it? How did the species survive till these genuises appeared? The theory of natural selection accounts for the survival of the fittest; but how does it account for that characteristic in the animal by which it preserves itself? Hibernating animals feed voraciously in the autumn when food is abundant and accumulate fat to an unwonted degree; instinct then leads them to their winter's retreat, when the whole vital activity is so reduced that life is maintained for months without food. How were the species preserved till those changes in structure and function corresponding to those hibernating habits were effected? Then we find some species of animals dependent for their preservation on other species. The caw-bird lays its eggs in the nests of other birds. The owner of the nest hatches the eggs and nourishes the young as its own. When mature, the foundling forsakes its home and all the birds it has ever known to seek its own species, hatched in scattered nests, and mates and lives henceforth with them. Darwin tries to account for the hexagonal cell of the bee on the principle of economy. The bee wishes to save as much as possible of honey from going into wax. But the question is, how come the bee to be a builder at all? Nor does the existence of the instinct to build such cells turn in the continuance of bee-life through the Winter, as Darwin would have it. For some wasps, that perish every Fall leaving only eggs to perpetuate the species, build mathematical cells like honey bees.

Instinct is not infallible. It may be deceived. Flies lay eggs upon the carrier-plant which has the odor of

* *Instinct:* its office in the animal kingdom and its relation to the higher powers in man. By P. A. Chadbourne, LL.D. New York: Geo. P. Putnam & Sons. 1872. 12mo, pp. 307.

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putrid flesh, very young birds open their bills when any sound is made upon the edge of the nest. The hen mistakes a crystal of salt for gravel.

Animals learn from experience. The elephant, that has broken through a bridge, fears to trust himself upon another. The wild squirrel, when first caught, trembles with fear; he learns to trust his captor implicitly. The fox will dig out his trap and spring it, and then like all the bait animals remember. They love and hate. They have an executive power of will. Man has instincts. The difference between man and the animal creation below him is that in him, intelligence rules instinct; in them instinct rules intelligence. In animals instinct is the proper guide because the highest; in man instinct needs control. Man besides has higher instincts than animals. He has the sense of obligation, the grand instinct, on which morality grounds itself. He has the sense of a relation to a higher being than himself. He has thus not only moral but religious instincts, as well as also the knowledge of relations through the power comprehensive. All these attributes the mere animal has not.

COLLEGE RECORD.

Trinity College, (Hartford, Conn)—Members of the class of 1842 of this Institution are invited to meet in Hartford, Wednesday, July 10th, the day before the next commencement. Each member of the class is requested to send at once his intentions in regard to this meeting, and also the address of every other class-mate to Rev. C. R. Fisher, Hartford, Conn.

Hartford, April 12th, 1872.

(Papers throughout the country please copy.)

East Tennessee University, (Knoxville, Tenn.) This institution has now 225 students, and is enjoying a good degree of prosperity. The whole government of the institution is military. The students are divided into four companies, and are under the command of Lieut. T. T. Thornburg, U.S.A. A fine collection of fossils and minerals has recently been made for the University by Mr. F. H. Bradley, who is hereafter to spend his whole time there, instead of four months in a year, as formerly.

Toussaint L'Ouverture College.—In accordance with an act of the legislature of New York, passed April, 1871, incorporating Toussaint L'Ouverture College, the trustees named in the charter have organized, and decided to build the college on the banks of the Hudson River, near Pougkeepsie. The trustees make an appeal to friends of the cause for aid in order to have the institute well endowed and well provided in every particular. They do not ask for the payment of any of the subscriptions until the sum of one hundred thousand dollars has been actually subscribed, Agents have been appointed to receive subscriptions, and, at the proper time, local treasurers will be designated through whom moneys may be paid. Mr. John J. Platt, of Poughkepsie, acts as general treasurer, and his certificate to the effect that one hundred thousand dollars have been actually subscribed will be presented to each subscriber before he will be called upon to pay the amount placed against his name.

Western Reserve College, (Hudson, O). — *Editor Courant.* We rarely have stirring times and exciting occasions here, but Junior Exhibition is one of the few we do have, and when the exercises are so creditable as those of the 3d ult, they certainly deserve mention.

The class is unusually small this year, but perhaps this, instead of detracting from, rather enhanced, the pleasure of the day. The orations were very well rendered to a large and highly appreciative audience. It has been a mooted question hitherto whether "any good thing could come out of" this class, but the prevailing decision is very much to the credit of '73. The colloquy was well performed, and gave the audience an opportunity to indulge in severe laughter, after the fatigue of listening to the orations. The colloquy was appropriately entitled "An Existing Absurdity." In the evening a very fine concert was given in the chapel. After the concert a dance was indulged in, and after the dance,—sunrise.

This Junior Exhibition was enlivened by a large influx of handsome girls, a very desirable and pleasureable occurrence. The chapel is undergoing extensive repairs. The Seniors are jubilant, it will be the largest class Western Reserve ever graduated. E.

Hudson, April 8th, 1872.

Alabama State Agricultural College, (Auburn, Ala.)—A meeting of the Board of Directors of this institution, was recently held in Auburn. Hon. W. H. Barnes was elected President of the Board, F. M. Reese, Secretary, and E. T. Glenn, Treasurer. The following gentlemen were elected to the several professorships:

1 I. T. Tichenor, D.D., President and Professor of Moral Philosophy, Rhetoric, Logic, History, and Politi. cal Economy. 2. Alexander Hogg, Professor of Pure Mathematics. 3. W. C. Stubbs, Professor of Chemistry proper, Agricultural and Analytical Geology, and Mineralogy. 4 Dr. J. B. Read, Professor of Natural Sciences, embracing Astronomy, Metallurgy, Mechanic Arts, and Civil Engineering. 5. Rev. B. B. Ross, Professor of Mental Philosophy, English Language and Literature. 6. John T. Dunklin, Professor of Ancient and Modern Languages. 7. W. H. Jemison, Professor of Practical Agriculture, Horticulture, Pomology, etc. 8. Gen. Geo. P. Harrison, Commandant and Teacher of Military Tactics and Military Engineering.

The sessions begin annually on the first Monday in February, and Commencement day is appointed for the last Thursday in October of each year. Each member of the Faculty elect, except Dr. Tichenor, was present, and signified his acceptance. The students present are to be matriculated at once—at least those who wish to enter the College under its new form. The course of study in the Literary Department will remain the same for the present but especial emphasis will be given to the Scientific Department. The year is too far advanced to begin the operations of the experimental farm now, but preparation will be made to open and stock it as soon as the requisite funds are placed in the hands of the Faculty.

Syracuse University, (Syracuse, N. Y.) At the session of the central New York Conference at Cortland, N. Y., April 4th, 1872; Rev. Jesse T. Peck, D.D., President of the Board of Trustees, submitted the report of the Executive Committee of Syracuse University, which was refered to the Committee on Education.

The report was as follows:—

1. Bonds of Syracuse have been issued for $100,000.

2. The Hall of Languages has been contracted for at a cost of $136,000. It is to be a superb edifice of cut gray limestone. We have paid on the building according to contract $59,524,02.

3. We have received the splendid gift of the University Block, costing $120,000, half of which is the property of the University. In the other half belonging to the College of Missionaries, our Methodist press and book-store are now well accomodated and in successful operation under the direction of the Book Agents at New York.

4. We have nearly completed the grading of our building sites on the University Park of fifty acres.

5. The College of the University has been organized, and is now in successful operation. The following facts are furnished by the Faculty: Students; Seniors, 16; Juniors, 4; Sophomores, 8; Freshmen, 32; Laboratory, 4. Total, 64. Of these there are, Classical Students, 41; Scientific, 17. The others are special. All but three or four of these students are professors of religion, and twenty-one of them are Local Preachers or Exhorters.

6. The "College of Physicians and Surgeons" is now organized with a full corps of Professors, and a valuable Library and Museum, all thus far without expense to the University. It will open next Fall.

7. We have instituted a system of gymnasia of the University, which have united to us in organic unity the Hudson River Institute, Central N. Y. Conference Seminary, B. R. Conference Seminary, and Fort Edward Institute. Others will follow.

Three courses of study, each containing four years, have recently been adopted, to be known as the classical course, the Latin-Scientific course, and the Scientific course. These courses give the students a wide range of elective studies, and respectively entitle him to the degrees of Bachelor of Arts, Bachelor of Philosophy, and Bachelor of Science.

The University endowment now amounts to about $650,000. A catalogue will be issued in the early part of next term.

Wesleyan University, (Middletown, Conn.)—*Editor Courant:* The Spring term of Wesleyan University commenced Thursday morning, April 11th.

The Junior Exhibition passed off very well, the college choir singing very excellent music, in a very excellent manner. We hope that they will furnish music for all future exhibitions.

We rejoice in being able to say that the erection of a fine boat house will be commenced within a few weeks. If some one would only donate a ball ground!

Prof. Harington is one of the New Hampshire delegates to the General Conference of the Methodist Episcopal Church.

Probably some may wonder with what feelings the "Boston University" is regarded by Wesleyan men. To such I may say we deeply regret the educational policy of the Methodist Church in this country—our views being those of the COURANT on this point—and especially the exhibition of it in chartering the "Boston University." Boston, as every one knows, is Boston—that is its best definition—and Bostonians are slow to believe that anything good can exist outside of Boston. So, "there must be a great Methodist University; Syracuse and Middletown—both richly endowed and possessing first-class reputations, will not do; the 14 colleges of New England are not safe places in which to educate Methodist children; Harvard — preposterous idea!— must be susperseded by a great university situated almost within sight of it," and so on, *ad nauseam.* These are the reasons for starting the new institution. But when we take into consideration the facts that the number of college students in New England is steadily diminishing, and that something besides money is required to make a college, we are disposed rather to regard with sorrow than jealously the new movement, and to hope for the honor of Methodism—not for that of Wesleyan university, for she will live in spite of them—that the new institution will never be opened. It is probable, however, that that event will occur judging from the well known character of the leaders in the movement. If the event does take place, we wish them the success they deserve.

COSINE.

Middletown, Conn., April 12th, 1872.

Harvard College, (Cambridge, Mass). — We learn from the Boston *Advertiser* that a stated meeting of the Board of Overseers of Harvard College was held Tuesday forenoon, April 10th. After the reading of the records, the president of the university presented votes of the coporation, appointing the Hon. Benjamin F. Thomas lecturer in the law school on the law of wills for the current year, and Thomas Dwight, M.D., instructor in comparative anatomy for the ensuing academic year, and the board concurred therein by ballot.

The president also communicated a vote of the corporation transmitting a vote of the college faculty relating to the annual report of the board of overseers, and the same were referred to the following members of the board to consider and report upon, namely: Messrs. Walker, Russell, and Shattuck.

The treasurer of the university reported that, in compliance with a resolution of the board, "that he be requested to divide the fund now classed as Saltonstall

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scholarships, appointing Mary and Leverett Saltonstall's gifts separately from Dorothy Saltonstall's, and report to this board," and in accordance with a vote of the corporation, such separation has been made, and that the portion belonging to Mary and Leverett Saltonstall's gifts, at the beginning of the present financial year, was $4,084.34.

Rev. Dr. Walker submitted a report recommending that the board concur with the corporation in the election of Ezra Abbott, LL.D., as Bussey professor of New Testament criticism and interpretation, and the board assented thereto and concurred in the election.

Hon. Mr. Ware submitted a report recommending that the committee for visiting the Lawrence scientific school and the School of Mining and Practical Geology perform the duty of visiting the Bussey Institution, and that section 27 of the rules and by-laws of the board of overseers be amended by substituting for the clause, "A committee to visit the Lawrence scientific school, and the School of Mining and Practical Geology," the clause, "A committee to visit the Lawrence scientific school, School of Mining and Practical Geology, and the Bussey Institution." The report was accepted, the recommendation adopted, and the amendment laid on the table for consideration at the next meeting.

Voted, That the corporation be requested to authorize the treasurer to pay for the printing of the by-laws and reports of the overseers ordered to be printed by the board.

On motion of Rev. Dr. Clark, it was

Resolved, That a committee of this board be appointed by the chair to inquire into the practical operation of the system of the education of the sexes in the various colleges where it now exists, and to report the result of their inquiries, with their opinion as to the adoption of this principle in our university.

The chairman stated that the committee would be announced at the next meeting. The meeting was then adjourned for four weeks.

Yale College, (New Haven, Conn.) The principal topic of discussion in connection with the college during the vacation is the alumni members of the Corporation. A few gentlemen connected with the college have prepared the following circular and ticket and are sending them around to many qualified voters:

"In view of the immediate and prospective importance of the approaching election of members of the Corporation of Yale College, a choice from the persons hereinafter named, is suggested, in the belief that the list is drawn from among those who have already shown an active and intelligent interest in the recent growth of the University, and are, therefore, most likely to labor judiciously and faithfully for its real good in the future: Hon. W. A. Buckingham, (L.L.D., 1866), Norwich, Conn.; Joseph E. Sheffield, (A.M., 1871), New Haven, Conn.; Gen. A. Q. Keasbey, (1843), Newark, N. J.; Henry B. Harrison, (1846), New Haven, Conn.; Frederick J. Kingsbury, (1846), Waterbury, Conn.; Mason Young, (1860), New York; Frank E. Kernochan, (1861), New York; M. Dwight Collier, (1866), St. Louis, Mo."

We give all the tickets that are sent to us, or that we hear of, and accordingly present the following from the the Hartford *Courant* of recent date. The author of this ticket signed himself "Alumnus," and professed to be "one who is not a member of either the faculty or the corporation of the college, and who has not exchanged a word upon this subject with a member of these bodies, but who feels a deep interest in the institution, and desires its enlarged usefulness." The ticket is as follows: Wm. A. Buckingham of Norwich; Wm. M. Evarts of New York city, Alphonso Taft of Cincinnati, Dwight Foster of Boston, Andrew D. White of Ithaca, Samuel M. Capron of Hartford.

As was announced some time since the semi-centennial of the Divinity School, is to be celebrated this year. It has now been decided to hold the celebration on Wednesday and Thursday, the 15th and 16th of May next. The exercises will commence on Wednesday, at 2½ P.M., with the addresses of the Graduating Class, in the College Street Church. In the evening, at 7½, a Historical Address will be delivered by Prof. Fisher, in the Center Church. On Thursday the meetings will be held in the Marquand Chapel. Papers will be read, and brief addresses made, on the progress of the Seminary during the year; Alumni deceased since the last anniversary; reminiscences of the former professors; history of the institution in connection with Home Missions; its connection with the work of Foreign Missions; endowments and present condition and prospects of the Seminary. The faculty of the School have issued a circular of which the following is a paragraph: "In so large a gathering as this is expected to be, the Alumni will have the opportunity of listening to only a part of those present, while others will be unavoidably absent; but a cordial invitation is extended to all to send us in writing their reminiscences of the deceased professors or students of the Seminary, or any facts of interest connected with its history, to be used either now or at some future time, as may be found most desirable." Letters may be directed to Prof. Geo. E. Day, Secretary of the Faculty.

The party of students which recently went off on a dredging expedition to Nantucket and vicinity are meeting with success. Most of the party had been sea sick, which interfered somewhat with their work. On Friday of last week, they were at Holmes Hole, Martha's Vineyard, and had already dredged Naragansett Bay, off the Gay Head, and through Vineyard Sound, with the most satisfactory results. Sunday they were to spend at Edgartown, and thence they proposed to sail for New Bedford and carry on dredging at Buzzard's Bay and Wood's Hole. The grounds dredged, eleven in all, were in some instances entirely new. The party is expected home the last of this week.

From the account of the *Lit.* supper as published in the April number, we learn that the new board of editors have elected "Mr. Beebe treasurer, and intrusted to Messrs. Lyman and Houghton the charge of 'Memorabilia' for the coming year; to Mr. Tarbell the 'Notabilia,' and to Mr. Prentice, the chairman of the board, the advertising department and book notices. The numbers for '73 will be issued in the order named; Houghton, Tarbell, Beebe, Prentice, Lyman, Houghton, Tarbell, Beebe, Lyman. The allotment to one man of the duty of writing book notices is a plan which, we believe, has never been tried before, and which, it is hoped, will promote the success of this department."

YALE PERSONALS.

'14, WITHINGTON.—The 1st Congregational church in Newbury, Mass., of which Rev. Leonard Withington, D.D., was ordained pastor in 1816, has called Mr. Omar W. Volson of the last class in Andover Theological Seminary to be his colleague.

'29, GILBERT.—Rev. Edwin R. Gilbert, on the 24th of March, tendered his resignation of the pastorate of the Congregational church at Wallingford, to take effect at the close of 40 years from his ordination. He was ordained pastor of this church Oct. 3, 1832, and was chosen a member of the corporation of Yale College in 1849, both of which offices he has continued to fill with honor to this day.

'35, BUTLER.—Rev. Daniel Butler of the Massachusetts Bible Society, expects to sail for Europe, April 20th, for an absence of about four months.

'47, JESSUP.—Died at Vevay. Switzerland, April 2d, Rev. Edward Jessup, rector of the (Episcopal) church of the Redeemer, Brooklyn, N. Y., aged 44 years. He went to Europe some time ago for the purpose of regaining his health.

'47, CONE.—Rev. Luther H. Cone, resigned his pastorate of the Olivet Congregational church Springfield, Mass., on account of continued ill-health; but his people refused to accept his resignation, and gave him 6 months' vacation with his salary continued. He comes to this city with his physician's prescription of absolute rest.

'49, FENN.—Rev. Stephen Fenn, was, at his request, dismissed from his pastorate of the Congregational church at Watertown, March 26th.

'58, LEE.—Rev. Samuel H. Lee, was, at his renewed application, dismissed, April 2, from his pastorate of the 2d, Congregational church Greenfield, Mass., to go to the 1st, Congregational church Cleveland, O.

'59, WILCOX.—Rev. Asher H. Wilcox, of the Congregational church at Preston, Ct., has accepted a call to the pastorate of the Congregational church at Westerly, R. I.

'63, COOLEY.—Rev. Henry E. Cooley, has received and accepted a call to the Congregational church at Littleton, Mass.

'63, CHAMBELAIN.—Rev. Leander T. Chamberlain pastor of the New England church, in Chicago, preached in New Haven last Sunday both morning, afternoon and evening. His object in coming East is to obtain $50,000 to rebuild his church which was destroyed in the great fire. Liberal contributions were received in New Haven.

'63, MCNEILLE.—Rev. Robert G. S. McNeille, lately pastor of the East Congregational church in this city, has received a call to the pastorate of the Porter Evangelical church, North Bridgewater, Mass.

'65, PAYNE.—J. K. Payne, is professor of Mathematics and Mechanics in East Tennessee University, and also has charge of the signal station at Knoxville, Tenn.

'66, PIERSON.—The punishment of the leaders of the mob who attacked Rev. Isaac Pierson last December, at Yu Cho, China, has been obtained through the action of Rev. Chester Holcombe, of Peking, temporary Secretary of Legation. Mr. Holcombe went to Yu-Cho, which is 150 miles north of Peking, and through his exertions four were sentenced to wear the Kang on the public streets for a month, and three for half that time. Also the entire value of the articles stolen or destroyed by the mob, with expenses for couriers and Mr. Holcombe's travelling expenses, were paid by the official, and the amount was collected by him from the citizens. He further issued a proclamation warning the people against molesting "the honorable Americans" in future.

'67, BROWN.—We have received the second annual catalogue of the Glastonbury Academy, at Glastonbury, Conn., of which Leonard J. Brown is principal. Although this is only the second year of the existence of the academy, it has already a total attendance of 118 students of whom 56 are gentlemen, and 62 ladies.

'67, WILSON.—Died at Rochester, N. Y., of tubercular consumption, Emily S. Wilson, wife of Frank H. Wilson. The funeral was attended in New Haven, Thursday, April 18th.

'69, ATWATER, S.S.S.—W. O. Atwater who is now professor in East Tennessee University, at Knoxville, Tenn., has delivered the past winter a number of lectures on chemistry before the Knoxville Board of Trade.

'70, CRANE.—A. P. Crane, who is now in Columbia Law School, New York, was in New Haven last Thursday.

'71, FEWSMITH.—J. Fewsmith, who is now taking a medical course in the College of Physicians and Surgeons, New York, spent last Wednesday with his friends in New Haven.

'71, SWEET.—When last heard from, which was a few days since, E. F. Sweet was in Egypt. He mailed his letter at Cairo, and was then on his way down the Nile. He was going thence to Palestine.

YALE ALUMNI AT JUDGE PIERREPONT'S.

Pursuant to an invitation from Judge Edwards Pierrepont, a very large number of the Alumni of Yale, met at his home on Fifth avenue, N. Y., last Tuesday evening. After the guests had assembled, Judge Louis B. Woodruff, of the Circuit Court, called the meeting to order, and Judge Pierrepont was appointed chairman. Mr. Joseph B. Varnum and Wm. C. Whitney, were named as Secretaries. Judge Pierrepont then read the following propositions, which expressed succinctly the objects for which the meeting was called:

1. To consider in what way the city of New York and vicinity can best be awakened to an interest in the prosperity of Yale College.

2. To consider how many of the new members of the corporation ought to reside in New York and its vicinity.

3. To consider what kind of men, as members of the Corporation, will be most likely to promote the permanent success of the college.

4. To consider the best mode of securing the true

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interests of the college in the elections about to take place.

5. To consider the report of a committee of the New York Alumni.

6. To consider the best mode of obtaining a fair and impartial expression of the Alumni in their choice of the new members of the corporation.

These propositions led to some discussion and ultimately Mr. Maunsell B. Field proposed the following resolutions:

Resolved. That it is not expedient or desirable to discuss here the qualifications or fitness of particular candidates for the office of Fellow of Yale College.

Resolved. That the circumstances and conditions under which the selection of Fellows should be made is a subject for the most careful consideration and the fullest and most exhaustive discussion; and that such discussion be invited after the report of the Committee of the Yale Alumni Association of this city, appointed thereupon at their last annual meeting, shall be read.

A very lengthy discussion followed upon these resolutions, but they were at last adopted. Mr. Joseph B. Jackson, then presented the report of the committee appointed at the previous meeting of the Alumni, the duty of which committee was to consider the subject of nominations for members of the Corporation. The report of the committee embodied an article in the COLLEGE COURANT of last week from the pen of Prof. Timothy Dwight, and was read and approved. The following resolution was then presented by Mr. Whitney and unanimously adopted:

Resolved. That the members of the Corporation of Yale College should be sufficiently accessible to the college, as to be able to attend all meetings of the college.

Subsequently the points of qualification for members of the corporation proposed in the report read by Dr. Jackson, were adopted by the meeting. Ballots were also cast with the understanding that the secretary of the meeting should cause to be made public the names of the twenty persons having the largest number of votes, from which it was understood that the Alumni would make their selections of the six names to be sent to the college secretary. The party then adjourned to supper, and did not break up until a very late hour.

GLEANINGS.

PERSONAL.

— Prof. W. R. Rothwell has been appointed treasurer of William Jewell College, at Liberty, Mo.

— President Chamberlain of Bowdoin College will deliver the oration at Portland on Memorial day.

— Prof. John Fiske of Harvard College is to deliver a course of lectures in Cooper Institute, New York, next month.

— President Angell will deliver the address at the approaching dedication of the Flint Scientific Hall, in Michigan.

— Prof. Goldwin Smith lectured in Kingston, Canada, Tuesday evening, April 9th, on "Gustavus Adolphus and Wallenstein."

— Professor North, of Hamilton college, New York state, who has been connected with the American legation at Athens, has arrived at New York.

— Rev. Prof. Tobey, of Bethel College, Ky., has so injured his eyes by overwork, that it will be necessary for him to use them but little for some moths.

— Prof. J. R. Herrick, D.D., of Bangor Seminary has been heard from at Venice and Rome, on his way to Palestine. Mr. L. S. Ward. Treasurer of the American Board, was with him at Rome.

— The latest letters from President Loomis, of Lewisburg University, were dated February 23d. He was then at Suez, having returned from Palestine, just ready to sail for Bombay. He expected to leave the latter city, for Calcutta, March 8. Thence to Burmah, China, Japan, California, was his contemplated route, hoping to reach home in June.

— A member of the Japanese embassy, Mr. Tanaka, commissioner of education, is in Boston, quietly acquainting himself with our educational system. He has visited the Institute of Technology, Natural History Rooms, State Library, and Harvard College, and last Tuesday, under the direction of Superintendent Philbrick, he was visiting the City Schools.

— Notwithstanding his resignation, the services of Dr. Hopkins as an instructor will be retained by Williams college, as it is expected that he will continue to teach the seniors in intellectual and moral philosophy, as heretofore. It is said that the executive and disciplinary work that falls to the lot of the president, has always been distasteful to Dr. Hopkins, as it was to Dr. Hitchcock of Amherst college.

— The following is a list of the principal works published by the late Prof. Upham, D.D., L.L.D. (1) A translation of Jahn's Biblical Archæology; (2) Ratio Disciplinæ, or the Constitution of the Congregational Churches; (3) The Manual of Peace; (4) Mental Philosophy, 3 vols., the Intellect, Sensibilities, and Will; (5) An abridgement of the same; (6) Interior Life; (7) Life of Faith; (8) Religious Maxims; (9) Life of Madam Guyon; (10) Life of Catharine Adorna; (11) Divine Union; (12) American Cottage Life; (13) Letters —Aesthetic, Social and Moral, written from Europe, Egypt, and Palestine, and first published in the *Congregationalist;* (14) Essays on a Congress of Nations.

COLLEGE.

— The students of Syracuse University are about to publish a paper.

— St. John's College, Prairie du Chein, Wis., is said to have 210 students.

— The Illinois Industrial University has 339 students, of whom 44 are women.

— 5,000 has been left to the University of Edinburgh by the late Mr. Robert Cox.

— The Board of Trustees of Otterbein University are to meet at Westerville, on May 28th next.

— The college for the blind, at Vinton, Iowa, is to enlarged at an expense of $70,000.

— In Mercer College Georgia, only three of the students are studying for the ministry.

— Extensive renovations and repairs are now going on at Colby University, Waterville.

— The Chicago Presbyterian Theological Seminary has recently graduated a class of eight.

— The Topeka Medical College in Kansas has resolved to admit female students to its courses.

— There are four Indians pursuing their studies at Cumberland University, Lebanon, Tenn.

— It is said that Hamilton College will be closed until May 2d, on account of the prevalence of small-pox.

— Efforts are being made looking to the establishment of a grand Southern Baptist University at Memphis, Tenn.

— There are now 51 students at the State Agricultural College at Orono, Maine, six of whom will graduate this summer.

— There has recently been an interesting revival of religion among the students of Wake Forest College, Forestville, N. C.

— The lectures in the Boston Theological Seminary next year are by Bishop Scott, Judge Reynolds, and President Woolsey.

— The Council General of the Department of the Seine has voted an appropriation of 18,000,000 francs for the schools of Paris.

— Rev. Dr. E. T. Winkler of Charleston, S. C., will preach the baccalaureate sermon at Union University, Murfeesboro, Tenn., next June.

— An appeal has been issued by the the treasurer of Williams Jewell College for funds to purchase the library of Rev. Dr. Williams, deceased.

—The gymnasts of Bowdoin College gave an exhibition in the City Hall, Portland, on Friday evening of last week for the benefit of the Bowdoin Boat Club.

— We learn from the American Naturalist that the American Association for the Advancement of Science meets this year in San Francisco, on the first Wednesday in August.

— The Missionary Society of Colby University has taken the preliminary steps for preparing a memorial of the Missionary, Mr. Boardman, to be placed either in Memorial Hall or upon the Grounds.

— Barnas Sears D.D., LL.D., trustee of the Peabody fund has employed an agent at $1,500 per annum to travel over Tennessee, and hold mass meetings to arouse the people in behalf of public schools.

— Waco Female College at Waco, Texas, is said to be well provided for as far as grounds, building and apparatus are concerned. The lack is students, and interest in the institution among its proper friends.

— The proposed appropriation of $300,000 for the University of California has been thrown out by the Legislature of that State. It is said that a substitute bill, appropriating $50,000 a year to the University, will be reported.

— An organization called the Tennessee Central Teachers' Association, has recently been formed, with Rev. Wm. Shelton D.D., formerly president of West Tenn. College, as president. It is proposed to hold monthly meetings in Nashville.

— At the recent junior exhibition of Rutger's Female College in New York City, twelve members of the class took part. The exercises consisted of music by the young ladies, a Latin recitation, and original essays in English, French and German.

— The friends of the College of the City of New York have made application for about $25,000 additional annual appropriation to meet the expense incurred by the increase in the number of students. This year there were 906 on the rolls.

— The recent examinations for scholarships in Natural Science, at Clare and Emanuel Colleges, Cambridge, England, both terminated without an election. The reason was the candidates, of whom there were but few in each case, did not prove themselves worthy of the distinction.

— There will be an election to a Natural Science Fellowship in Exter College, Oxford, England, on Wednesday, June 19th. The examination will be in Biology, and the fellow elected will be required to reside at and take part in the instruction of the College. Candidates are requested to make application to the rector on or before June 1st.

— M. S. Toyama, late Secretary of the Japanese Legation, having resigned, proposes to fit himself for a literary and journalistic career, and goes to the Michigan University. He is the author of several remarkable essays published recently in the *Tribune.* Mr. Toyama will, it is understood, enter the American Lyceum field before he returns to Japan.

— The publishers of New York have recently donated 127 volumes to the library of Union University Murfeesboro, Tenn. Many of them are quite valuable. The donors were as follows: Sheldon & Co., 82 volumes; Harper & Bros., 23; A. S. Barnes & Co., 11; D. Appleton & Co., 5; and J. B. Ford & Co., 6 volumes including Beecher's "Life of Jesus the Christ."

— The Kansas Legislature has recently appropriated $50,000, and the City of Emporia $10,000, to erect a new building for the State Normal School at Emporia. The work on the new building will commence some time this month, and it will be ready for occupation about January 1st, 1873. It will accommodate about 400 pupils. The Normal School has recently adopted two courses of study, one for two years and one for four.

—Daniel Drew has given thirty acres of land at Carmel, his native place, to build a Collegiate Institute for both sexes, which is designed to have professors of a high grade, and be auxiliary to Drew Theological Seminary and Wesleyan University. The buildings of the Female Seminary at Carmel are to form part of the Institute, and a new building is to be commenced at an early day. It is hoped that the whole will be completed by autumn.

— The Chicago Academy of Sciences has recently received eight volumes on shells from the Conchological Section of the Philadelphia Academy; 7 public documents and reports from Hon. C. B. Farwell; 17 volumes of publications from the bureau of Navigation at Washington; 2 volumes from Librarian of Congress; 100 volumes from the Department of the Interior; and some fossil imprints of leaves in sandstone, from Colonel Henry Inman, Fort Harker, Kansas.

— The History of Amherst College, on which Prof. W. S. Tyler has been engaged for several years, is completed, and the publication is delayed only because the subscriptions yet secured do not warrant the expense. In order to cover the cost of printing and publishing, with such illustrations as will satisfy the friends of the college, there ought to be at least 600 subscribers, and when this number is secured, or nearly so, the history will be published. If alumni and their friends wish to hasten publication, let them send in their names at once to Prof. J. H. Seelye, and urge others to do likewise. The price of the book in cloth binding will be $5 per copy; bound in calf $6.

—All seasons bring the horrors of cholera morbus. William's Extract Jamaca Ginger cures.

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From Yale Courant, Apr. 3, 1872.

ALL persons must have noticed with pleasure, that the number of stories in circulation this year throughout the country, prejudicial to the reputation of the college is much smaller than usual. In publishing from week to week the record of our faults and follies, we have fancied they would in an exaggerated form find currency in the public press. This has by no means been the case, as in former years. The numerous items of Yale news which have been seen in circulation are far more creditable to us. This result is due in a measure to an increase of common sense, on the part of the public and also in a goodly degree to the presence on the New Haven press of Yale graduates, who are aware of the circumstances which are connected with most of the rows for which we are responsible. The readers of the local papers may have had less exciting tales to kindle their wrath, but surely they have had more truth. How surprised they must have been to read of the arrest of other, than members of college for stealing gates, and that other than students have at length been known to disturb the silence of the night! Whatever the cause of this improvement, it is extremely satisfactory, but need not be taken as giving license for disturbances to furnish tales of horror to overzealous reporters of vivid imaginations.

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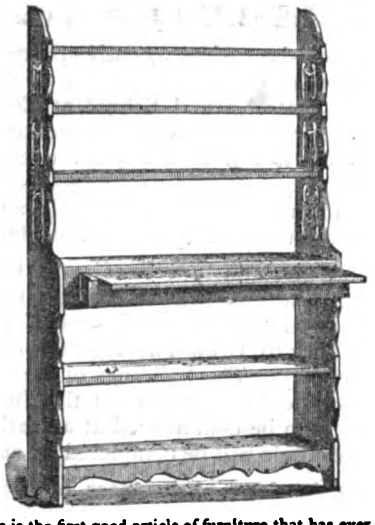

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It gives me much pleasure to testify of the success attending the study of vocal music in our school under the superior management of Prof. Jepson. Mr. J. is thoroughly qualified for his work, and enters into it with a zeal that is highly commendable. Not being satisfied, however, with what he has already done, he has conceived the idea of revising his "Elementary Music Reader," making a complete and easy gradation of exercises adapted to the wants of the younger as well as the older pupils. Mr. Jepson has already established an enviable reputation in New Haven as a teacher of vocal music, and his revised work, so admirably adapted to school use, will no doubt meet with a large sale.

GEO. R. BURTON, Prin. Wash. School, New Haven.

For several years I have had the opportunity of observing Prof. B. Jepsoh as a teacher of music in public schools, and more particularly in our own High School. In his department of instruction, I have never known his equal in securing early and valuable results. Whether his success has been mainly due to his own personal efficiency or to the peculiar features of his system as comprised in his "Music Reader," I cannot tell; I only know that the training he gives is thorough and natural, and that his pupils early learn to sing with a rare degree of intelligence and self-reliance.

T. W. T. CURTIS, Principal of High School.

Mr. Jepson's work and methods in teaching music in the New Haven public schools is an undoubted success. I would cordially commend his books to the attention of all who have an interest in this study in schools.

JOHN G. LEWIS, Principal of Webster School.

It gives me great pleasure to recommend Prof. B. Jepson's system of music and vocal culture. At the time of its introduction I doubted the utility of teaching note singing in our large schools, but its perfect success has disarmed prejudice, and I should now regret any change which would deprive us of instruction so valuable. Very truly,

L. L. CAMP, Principal of Dwight School.

It gives me pleasure to recommend Prof. Jepson's "Music Reader" to any wishing a thorough course of instruction in music in their schools. The books are, as their title imports, a *series* of music readers *systematically* and *progressively* arranged for the use of all grades of pupils, from the Primary to the High School. These readers have borne *most successfully* the best test of school books, namely, a daily use in classes for a term of years; and have been instrumental in convincing the most skeptical that all can be taught to read music with facility by the time that they are prepared for the High School.

JAMES D. WHITMORE, New Haven High School.

Every exercise which is undertaken in the school-room should be executed honestly and thoroughly. I have always regarded the "Elementary Vocal Drill" as the exercises of all others the most reluctant to conform to this rule. In overcoming the difficulties of the exercise, I have received more help from Mr. Jepson's system of elementary vocal drill than from any other.

JOSEPH GILE, Principal of Eaton School.

Prof. Jepson's Music Reader is, in my opinion, the most systematic and best adapted to school use, of any work of its kind now before the public. I have entertained a high opinion respecting its merits, since first seeing it in manuscript—*an opinion which its use in the school-room for several years has greatly strengthened.* Prof. Jepson is deserving of the praise which his highly meritorious work receives, and we cheerfuliy add our testimony to the above.

RALPH H. PARK, Principal of Eaton School.

"Jepson's Music Reader" has been used in the daily practice of vocal music in this school since its organizalion. The results have been, not only satisfactory, but wonderful. The system is such that children reading in the Primer or First Reader can learn to sing the scale, first by numeral, then by syllable, then simple melodies in different keys, and so on through the elements of music. The children in the Grammar Department are able to sing new music at sight in four parts. The time spent in the daily practice is from fifteen to twenty minutes.

H. C. DAVIS, Principal Skinner School.

Professor Jepson's method of teaching singing, as arranged in his "Elementary Music Reader," is of a *very superior order*, and in our schools will do everything that can be reasonably expected of a work of the kind.

RALPH G. HIBBARD, Professor of Elocution.

Mr. Benj. Jepson, the instructor of Vocal Music in the public schools of New Haven, has shown great tact and skill in teaching singing by note to even the youngest pupils in the schools of the city. His system has been long and thoroughly tested in New Haven, where it is now working admirably. Gen Eaton, National Commissioner of Education, and Gov. English, when visiting the schools of this city, expressed their surprise and gratification at hearing children in the primary schools sing *at sight* various exercises marked at the time on the blackboard. I should be glad to find the system which has here been so successful, generally adopted. Certainly, music should be taught in all our schools.

B. G. NORTHROP, Secretary State Board of Education.

I am familiar with Mr. B. Jepson's methods of instruction in singing as laid down in his "Elementary Music Reader," and as exemplified in his own practice. The "Reader," both in the earlier and later editions, has been used in our schools, and I am convinced that if the course there indicated be followed with tolerable energy and perseverance, the results will demonstrate the great value of the system and of the book.

H. E. SAWYER, Superintendent of Schools, Middletown, Ct.

The price of the Reader is 60 cents. Any teacher desiring it for examination will be furnished a copy by the publishers, Charles C. Chatfield & Co., New Haven, for 30 cents.

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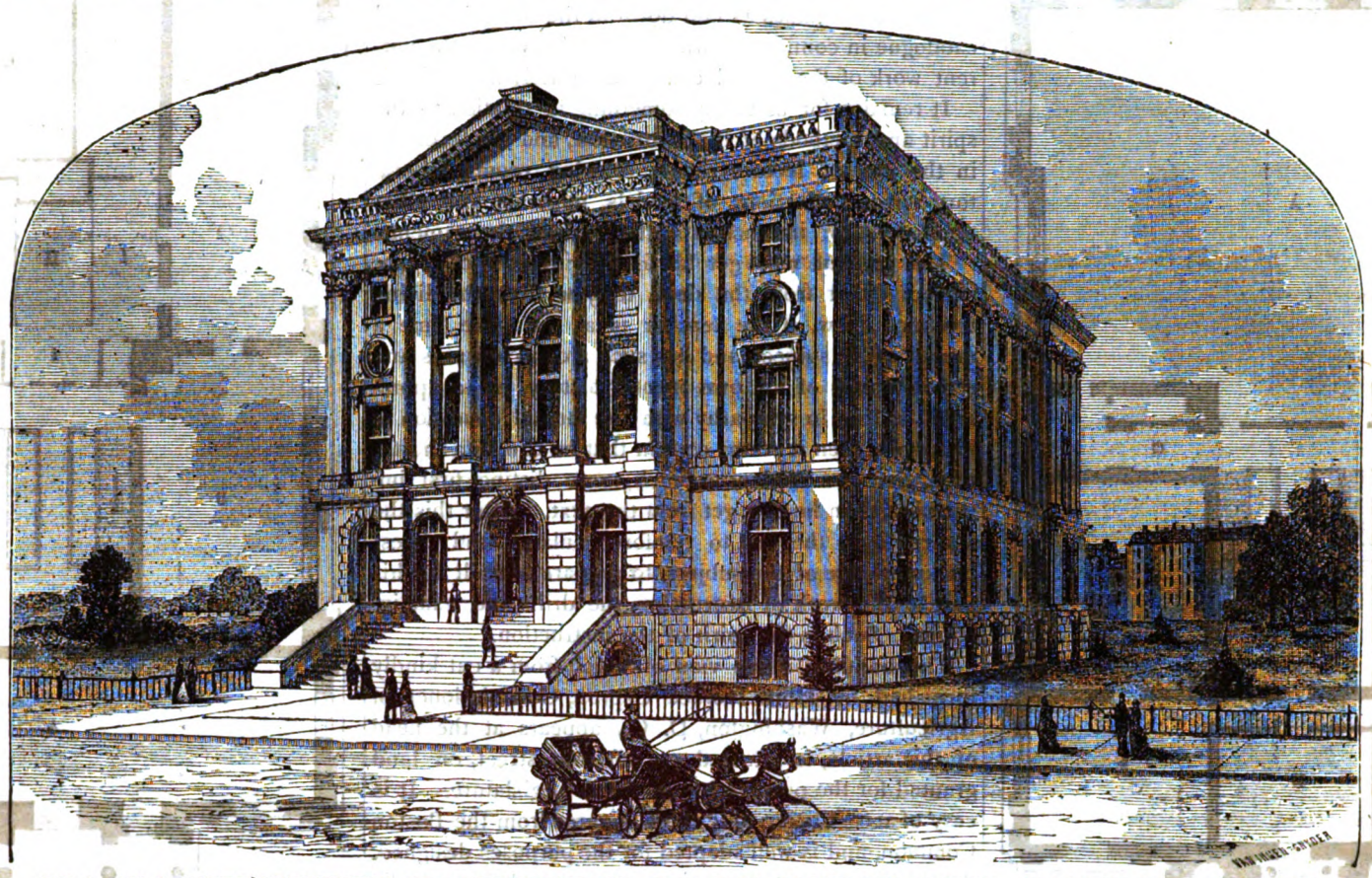
THE COLLEGE COURANT.

VOLUME X. SATURDAY, APRIL 27, 1872. NUMBER 17.



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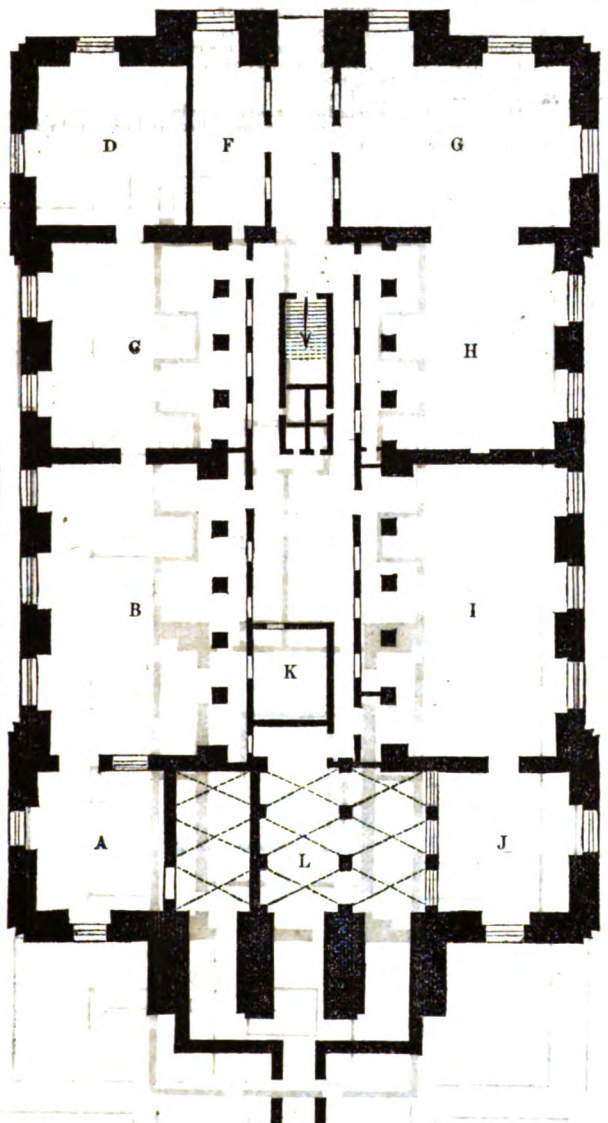

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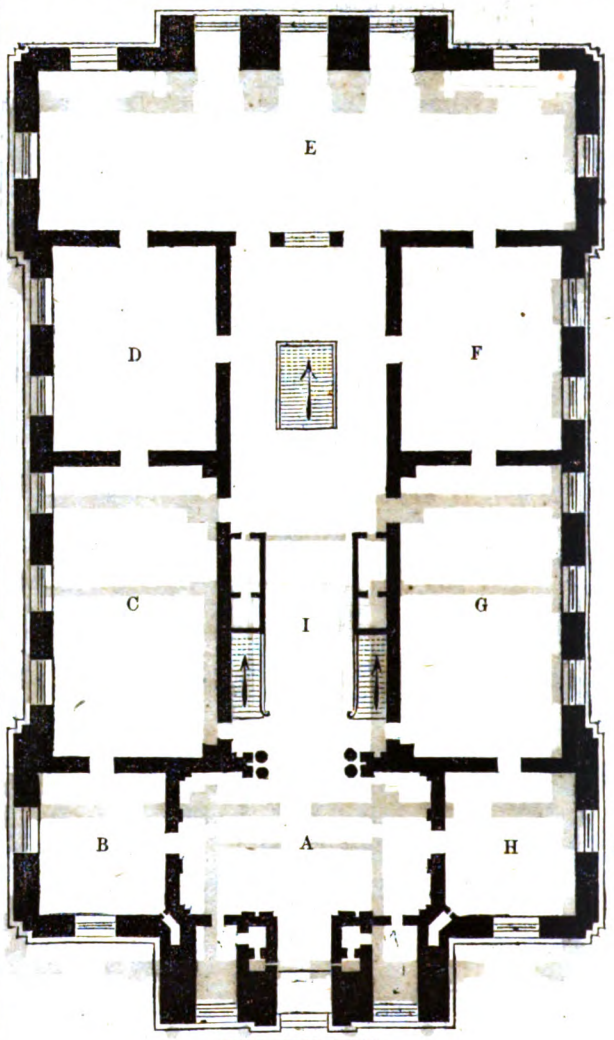
A. Professors' Chemical Laboratory, 25 by 22–11.
B. General and Qualitative Chemical Laboratory, 49–7 by 34.
C. Quantitative Chemical Laboratory, 35–8 by 34.
D. Quantitative Chemical Laorbatory, 26–4 by 24.
F. Professor Crafts' Private Laboratory, 34 by 13.
G. Mining Laboratory, 40–2 by 27–10.
H. Metallurgical Laboratory, 35–8 by 24.
I. Chemical Lecture Room, 49–7 by 34.
J. Mineralogical and Blowpipe Laboratory, 25 by 22–11.
K. Daily Chemical Supply Room, 14–6 by 12.
L. Engine and Boiler Room, 42–2 by 25.

The growing usefulness and influence of this Institute in the cause of education, and particularly of scientific and technical education, must be our excuse, if any be needed, for devoting so much of our present number to this subject. We do so the more readily also, because the attention of so large a proportion of teachers, as well as parents and students, is now turned to this phase of the educational problem. Not only are institutions springing up all over the country in which this kind of education is the leading element, but its spirit is also working down into the lower grades of schools, and largely modifying the methods of instruction. Increasing attention is also given to the question as to what subjects of study are best adapted to mental discipline, and how they should be taught to make them most effective as such. And one step in this direction has certainly been taken; it is no longer believed that the ancient languages are the only instruments of mental discipline. While the study of science may not give the same kind of discipline, there is no doubt about its degree and intensity; and while fully admitting the value of classical culture, we yet believe that the discipline to be derived from the proper study of science, modified and reinforced by the systematic study of modern philosophy and literature, will as well fit a young mau to cope with by far the larger number of problems which life in this country presents. We further believe that any well digested course of study, of proper length and variety of elements, may be so studied as to be highly disciplinary; and this leads us to a word in reference to elective courses and elective studies. The one presupposes on the part of the student all the knowledge and experience which study and discipline are supposed to have given his teachers, the other does not.

We are led to these reflections by a recent visit to this Institute, and the opportunity, by personal inspection and the study of plans and methods, to become somewhat acquainted with the spirit and character of the school. What the Institute aims to do will be best stated by enumerating the distinct four years' courses of study open to the choice of students; but only open after two years of systematic study shall have enabled his teachers to judge of his aptitudes, and to advise him as to his choice.

I. A course in Mechanical Engineering.
II. A course in Civil and Topographical Engineering.



FIRST STORY FLOOR.

A. Entrance Hall, 42–2 by 25.
B. President's Office, 25 by 22–11.
C. Physical Lecture Room, 49–7 by 28–3.
D. Physical Laboratory and Apparatus Room, 35–8 by 28–3
E. Physical Laboratory and Apparatus Room, 92 by 27–10.
F. Mining and Geological Lecture Room, 35–8 by 28–3.
G. Society of Arts Room, 49–7 by 28–3.
H. Secretary's Office, 25 by 22–11.
I. Stairway Hall, 87–3 by 26–10.

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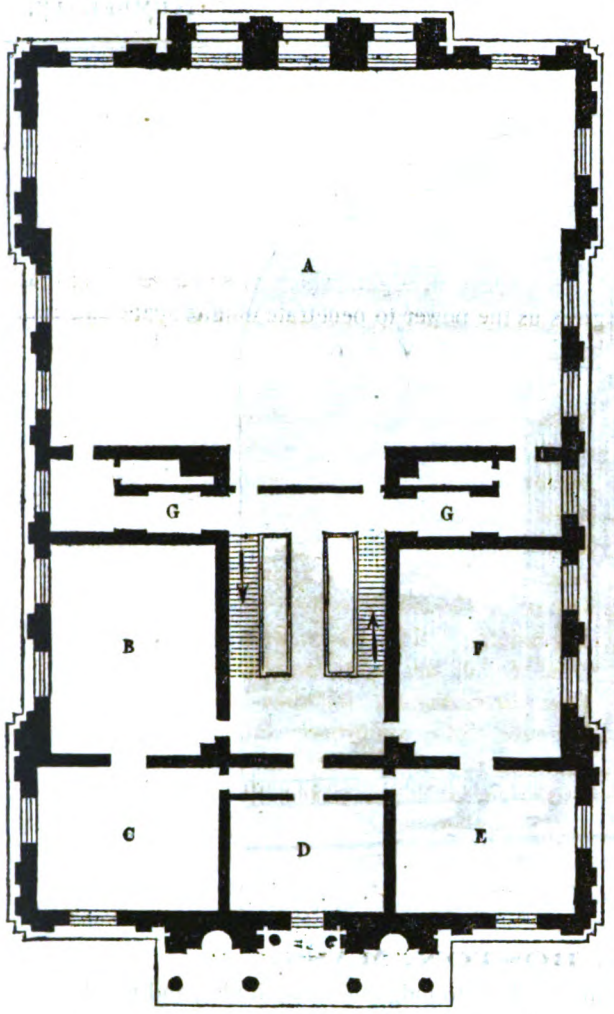
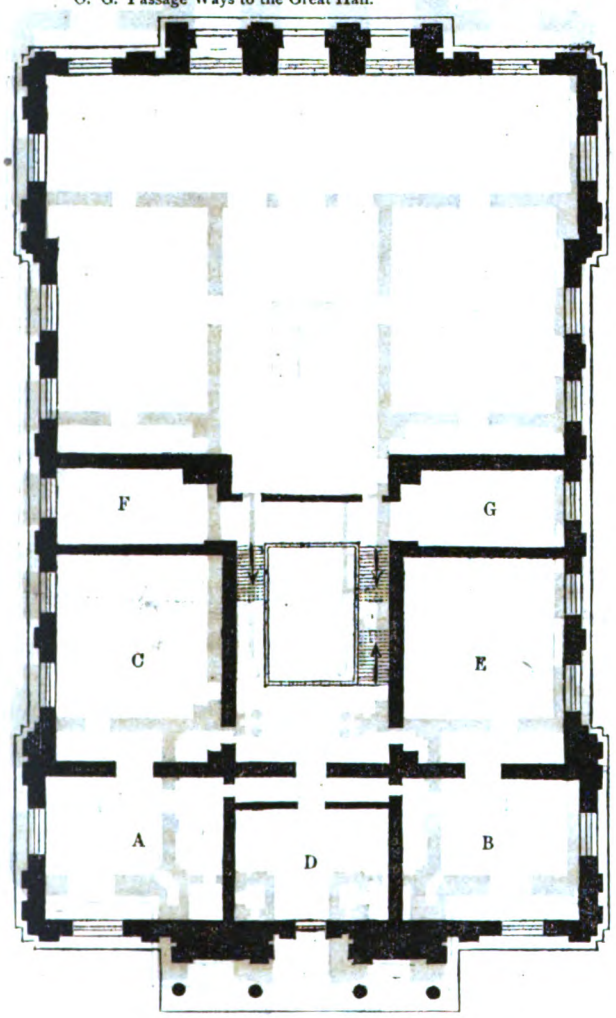
III. A course in Geology and Mining Engineering.
IV. A course in Building and Architecture.
V. A course in Chemistry.
VI. A course in Science and Literature.



SECOND STORY FLOOR.

A. Great Lecture Hall, 92 by 65-5.
B. Mathematical Lecture Room, 34-9 by 28-3.
C. Civil Engineering Lecture Room, 32-2 by 25.
D. Modern Language Lecture Room, 26-2 by 20-6.
E. English Lecture Room, 32-2 by 25.
F. Mathematical and Astronomical Lecture Room, 34-9 by 28-3.
G. G. Passage Ways to the Great Hall.



HALF STORY FLOOR.

A. Architectural Museum, 32-2 by 25.
C. Architectural Museum, 34-9 by 28-3.
E. Reading and Study Room, 34-9 by 28-3.
B. Architectural Library and Study Room, 32-2 by 25.
D. Natural History Lecture Room, 26-2 by 20-6.
F. Prof. Atkinson's Study, 28-3 by 14-2.
G. Prof. Osborne's Study, 28-3 by 14-2.

VII. A course in Natural History.

Any one, who will take the trouble to make a comparative study of the subjects grouped in these courses, as detailed in the seven annual catalogues which the Institute has issued, will see what changes, experience and study, from year to year have dictated; and by examining the courses as laid down in the seventh annual catalogue in connection with the tabular views, the current work of the school can be accurately ascertained.

It remains for us to say something in relation to the spirit and methods of the instruction, and the facilities, in the way of lecture rooms, drawing rooms, laboratory space, collections of models, minerals, and other appliances, for instruction in the various departments.

The student must get his first impressions of a new subject either from the dead text, or from the living teacher. Now, if the teacher is at the same time a master of his subject, and has such a consciousness and remembrance of his own mental history, as to appreciate and be in sympathy with the mental condition of his pupils, then it seems certain that he can, in a shorter time, give the student a much more distinct first impression than he can get from the text. After this the student uses the text to reinforce, enlarge, and digest his knowledge of the subject, to prepare himself for his part of the work of instruction, the drills and examinations. Such is the spirit of the instruction.

The building, a fine view of which from a cut kindly furnished by Hon. Horace Capron, Commissioner of Agriculture, Washington, D. C., appears at the head of this article, is situated on Boylston street, on land granted for the purpose by the State Legislature. It is easy of access being only three squares from the Boston Common, and is well adapted for the purposes designed. An examination of the plans of the several floors of the building presented herewith will show the space devoted to each subject and department. The chemical laboratories are well arranged for giving the current instruction in that department, and particularly well supplied with all appliances to facilitate advanced chemical work.

The Physical Laboratory, in which large numbers of students have received the greater part of their current instruction for the past three years, is now a demonstrated success, and quite as necessary to the student's best progress, as a chemical laboratory is in the study of chemistry. The laboratory is large and well equipped in all departments of physics, both for instruction and research. It is not only the largest, but the first one established in the country as a teaching laboratory; and its success is leading to the formation of others in many of our colleges and scientific schools.

To show the kind of work done in this laboratory by advanced students, we quote from the catalogue:

Strength of Materials. Flexure of beams and girders; breaking weight and laws of elasticity.

Weighing and Measuring. Comparison of scales; calibrating tubes; use of dividing engine; making standards of weight and volume.

Laws of Gases and Vapors. Mariotte's law; expansion by heat; pressure of steam at different temperatures.

Flow of Liquids and Gases. Coefficients of efflux; weirs; effusion and transpiration of gases; velocity of air and water currents; flow under different pressures.

Microscopy. Methods of viewing various objects; maynifying powers; focal lengths; polariscope; micrometers; mounting objects dry in balsam; making cells; cutting and grinding sections; injecting tissues.

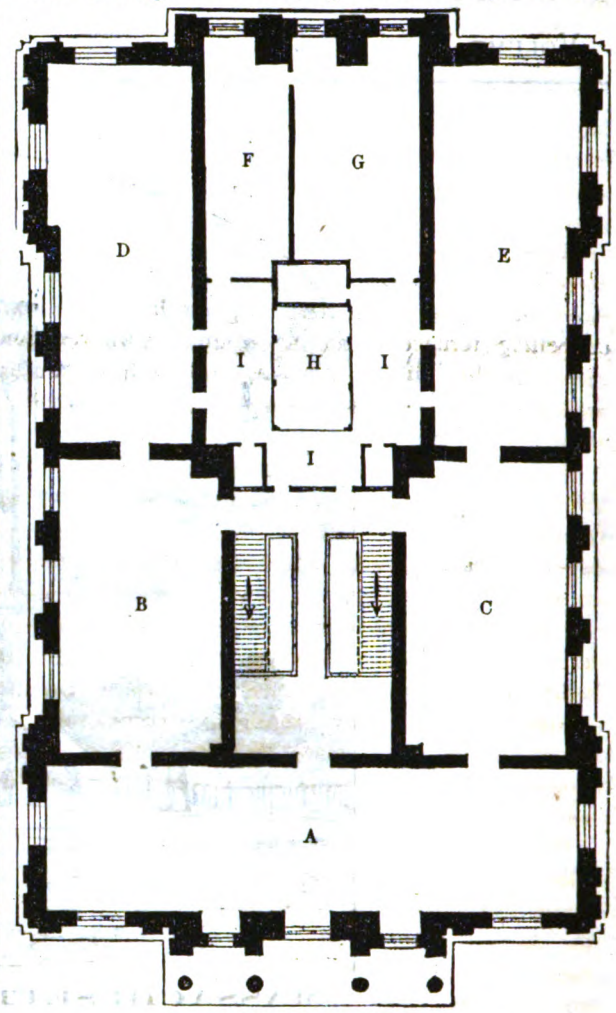
Spectroscopy. Application to chemical analysis; electric spectra of metals and gases; constructing normal maps of the solar spectrum; measurement of indices of refraction and wave-lengths.

Photometry. Candle power of gas; comparison of burners; ratio of light to consumption.

Electrical Measurements. Measurement of quantity; electromotive force and resistance; testing electro-magnets; comparison of different batteries; application to submarine telegraphy; detection of faults in the cable.

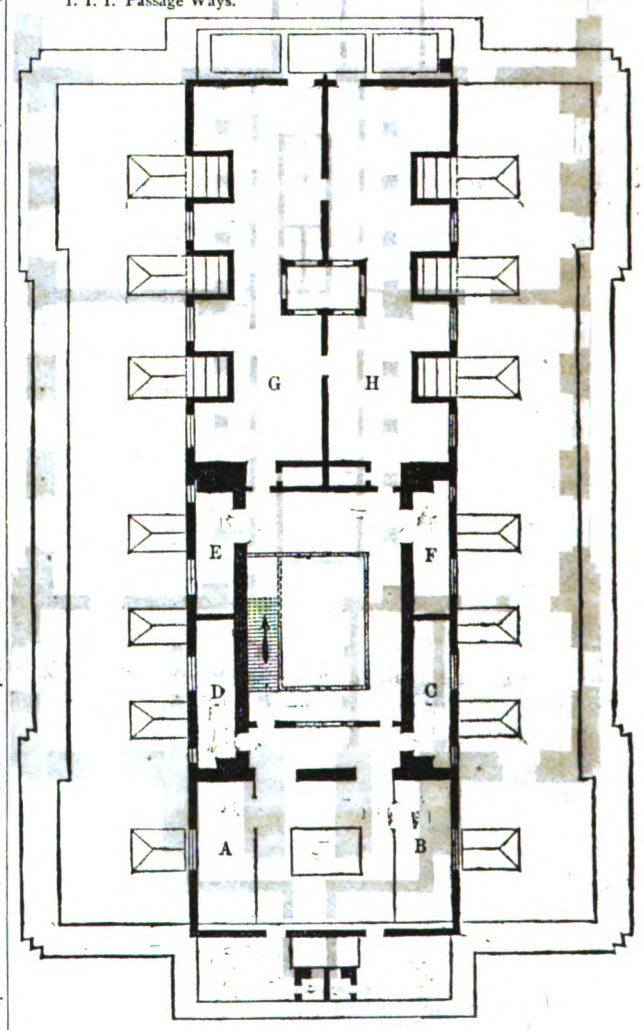
Another radical and progressive step in the way of laboratory instruction is found in

The Mining and Metallurgical Laboratory. In this



THIRD STORY FLOOR.

A. Second Year's Drawing Room, 92 by 25.
B. Fourth Year and Architects' Drawing Room, 49-7 by 28 3.
C. First Year's Drawing Room, 49-7 by 28-3.
D. Third Year's Drawing Room, 65-5 by 26.
E. First Year's Drawing Room, 65-5 by 26.
F. Mechanical Engineering Lecture Room, 37 by 17.
G. Mathematical and Descriptive Geometry Lecture Room, 37 by 23.
H. Model Room, 21 by 13.
I. I. I. Passage Ways.



FOURTH STORY FLOOR.

A. Prof. Watson's Study, 24-5 by 11-6.
B. Prof. Henck's Study, 24-5 by 11-6.
C. Prof. Runkle's Study, 24-9 by 7-6.
D. Profs. Richards' and Nichols' Study, 24-9 by 7-6.
E. Assistants' Study, 24-9 by 7-6.
F. Prof. Rockwell's Study, 24-9 by 7-6
G. Photographic Laboratory, 65-5 by 2:-10.
H. Drawing Room, 65-5 by 21-10.

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Laboratory the student of Mining and Metallurgy is furnished the means for studying experimentally the various processes of ore-dressing and smelting, by subjecting all kinds of ores to precisely the same treatment, and by the same appliances as are in use at the best mines and metallurgical works of this and other countries.

To this end, the laboratory already contains the most approved ore-dressing and mill machinery for gold and silver ores now in use in California and Nevada, consisting of an ore crusher, a five-stamp battery, an amalgamating pan, a separator, and a concentrator, all of sufficient capacity to work at least a ton of ore a day; reverberatory furnace capable of roasting from fifty to seventy-five pounds to the charge, with crucible and coppelling furnaces; and the equipment will be completed by the addition of blast and smelting furnaces, and all the machinery necessary for treating all kinds of ores.

The experimental work of the laboratory is carried on by the students under the immediate supervision of an Instructor. A sufficiently large quantity of ore is assigned to each student, who first samples it, and determines its character and value by analysis and assays, and makes such other preliminary examinations as serve to indicate the proper method of treatment. He then treats the given quantity, makes a careful examination of the products at each step of the process, ascertains the amount of power, water, chemicals, fuel, and labor expended, and thus learns approximately the effectiveness and economy of the method adopted.

The Institute has now on hand about eleven tons of gold and silver ores, representing over seventy different mines in Colorado and Utah, which were collected by the Institute party of professors and students during their recent trip to these territories. The drawing rooms are large and well lighted, in which each student has his table, and place, when not occupied in other parts of the building.

We regret that space will not permit us to give an account of the collections for facilitating the instruction in Engineering, Architecture and Natural History, the latter embracing the valuable and extensive collections of the Boston Society of Natural History. The Boston Public Library, and the library of the Boston Society of Natural History, are both open to the professors and students of the Institute, affording them unsurpassed facilities. We are impressed with the practical character of the instruction, as exhibited, not only in the laboratories, but in the use made of the many and various manufacturing establishments in Boston, and in the towns and cities in the vicinity, during term time, which furnish examples and illustrations, both in extent and variety, far beyond the capacity of any school. During the long four months' summer vacation the students of the professional years are encouraged and aided to make excursions to distant parts of the country.

The students now number about 275, and the teachers 34. The capacity of the present building is nearly exhausted, and we understand that the erection of another of about the same size is soon to be commenced. The energy and practical wisdom, on the part of both Corporation and Faculty, which have in so few years built up one of the leading educational institutions of the country, will not fail to give it a yet more commanding position in the near future.

ART EDUCATION.

BY PROFESSOR JOHN H. NIEMEYER, YALE COLLEGE.

(SECOND ARTICLE.)

[The following is the remainder of the lecture delivered by Prof. Niemeyer on the occasion of the recent exhibition of the free hand drawings of the students in the Yale Art School.—EDS.]

Let us now for a moment glance at the importance distinguished men in all departments of learning, have attached to the art of *drawing*. Without going back to the extraordinary mechanical and scientific inventive powers, developed in such men as Leonardo da Vinci, Michael Angelo and others, we find, approaching nearer our own time, that Newton was a most accomplished draughtsman. At college he studied drawing intently, and amused himself by making portraits and carricatures of his fellow students. In our own country we have a number of eminent examples of men distinguished in art becoming men eminent in the scientific world. Fulton was a successful miniature painter in Philadelphia when a young man. And it was while in Europe pursuing the study of art that he conceived the idea of pushing the half-hatched invention of Poor John Fitch, to a successful and practical result.

No inconsiderable part of the greatness and fame of Audubon, and the value of his ornithological investigations is due to his extraordinary skill in drawing and painting. He studied art in the studio of the greatest artist of France during the First Empire, David, the man who lifted the art of France from the degredation to which it had fallen during the reign of Louis the XV and XVI, and placed it upon the classic elevation of the principles of Greek art. David's influence was felt throughout Europe, and is still echoed in the best productions of painting and sculpture. The melancholy news which was recently sent over the telegraph wires of the world, announcing the death of Prof. Morse, and carrying grief to the heart of every lover of science, art, and true manhood, comes especially home to us, as members of this university. And as it is a natural sequence in my argument, permit me here to pay a short tribute to the memory of this illustrious man. He graduated at Yale in 1810. Having a decided talent for art he went the following year to England and studied painting under Washington Allston and Benjamin West. While there he made a small statue of the dying Hercules, which won for him a gold medal from the Adelphi Society of Arts. The artistic power and anatomical knowledge developed in this figure ranks it among the first productions of sculpture produced in this country. When I first saw it, not knowing the author, I took it for a work of the eminent French sculptor, Rude. It has the daring and original power of genuine art. As a painter of portraits Morse was preëminent in his time. A portrait painted by him 20 or 30 years ago was exhibited on the walls of the National Academy in New York last year and attracted marked attention on account of its superior power. He pursued art as a profession for over 20 years. He was one of the founders and first president of the National Academy of Design, and as the recognized inventor of the Electric Telegraph he needs no mention here. By this gift to mankind he created this inorganic mass of matter, the earth, into an organized, intelligent body, enabling every part to communicate almost instantaneously with every other part. His claim to the invention of the submarine telegraph even, dates back to 1842, more than a year before the first land line was constructed, when one moonlight night he laid the first cable in New York harbor. Who can tell how much the world owes to the artistic development of Prof. Samuel F. B. Morse? It is difficult to say whether we would so soon have been in possession of the electric telegraph, had not his constructive imagination been stimulated by the persistant, absorbing, and dominating will power and mental concentration which is brought into exercise in overcoming the difficulties of plastic art.

Prof. Morse was a member of the Art Council of this school; and in him we lose a warm friend and valuable adviser. Although in later years he occupied himself but little with the fine arts. Yet he never lost his intense desire and love for them. At one time, while in Paris, deeply occupied with his electric telegraph, he dared not, as he himself said, trust himself to go to the Louvre, for fear that the sight of its art treasures might divert him from the object to which he now seemed destined to devote his whole time. Though we cannot help lamenting the loss of his influence on American art, yet there is comfort and compensation in the thought that a grateful world honors him as an acquisition to science, and as a benefactor.

But the instrument, through which the education of which we have been speaking, is attained, the eye, is an object of the gravest concern when viewed from the critical stand-point of optical science, and when regarded as an instrument of precision. There is no optical instrument maker who does not succeed in constructing an apparatus much more perfect in many points than the eye—that marvellous organ, which we are inclined to regard as the masterpiece of vital and organic architecture, on account of the great service it renders to man.

This sense of sight, which is so far reaching that it gives us the power to penetrate infinite space and apprehend the universe, at the same time makes us familiar with the minutest objects; this sense, which is the freest and most uncircumscribed in its actions—for our sense of touch is limited by the length of our arms, hearing to a few thousand feet, the senses of smell and taste have still greater limitations,—this sense, I say, acts through an agent apparently so imperfectly adapted to its purpose, that recent investigations stand amazed at the idea how by it we receive any intelligible impressions. That we do is an evidence of the independence of the mind, and its power to make useful these necessary and imperfect means of contact with the outer world, and proves the necessity of educating this sense to quick and precise perceptions, in order to correct its faults, and perfect the work which nature has designedly left imperfect. The general construction of the eye is known to you all. Every elementary book on physics describes it as a sort of camera-obscura. Suppose now that the objective glass of this camera should not be placed symmetrically with the axis of the instrument, that the lens should have intrinsic defects, and that the sensitised plate should be impressionable only in spots; you would be obliged to acknowledge that the photographer had not the necessary means to produce a good picture. But we find all these faults, and others, in the human eye. I will only now refer to some of these in a general way.

The eye has the defect of what in physics is called the "aberation of sphericity"; that is, the rays that pass through the centre of a lens have a common focus, but rays which pass a certain distance from the centre do not converge at the same point, but pass beyond. The nearer they come to the circumference, the greater the focal distance, if the lens is rigorously spherical. In good optical instruments this defect is scarcely perceptible, the rays being centralized by flattening the lens. Again, the eye is not spherical, but has an elliptical curve. This was for some time thought to be an advantage, but the contrary is the truth. And this curve is not even well "centred," that is, placed symmetrically to the visual axis like a lens, but is changed and twisted in every direction. From this results what has been called the "astigmatism" of the eye, which consists in not being able to see at the same distance a vertical line with the same distinctness as one that is horizontal. This phenomenon recently discovered has attracted the attention of all oculists, as it sometimes constitutes a real disease of the eye. Again, the retina of the eye has spots where it is entirely blind to impressions of light. But is this eye, which is unsymmetrical, badly centred, blind in spots, at least perfectly translucid? Not at all. The cornea and crystalline lens of the eye are not absolutely limpid, as appears when examined through an intense blue or violet light, which renders it fluorescent. This phenomenon is due to the traces of a substance analogous to quinine, a body which possesses in the highest degree the property of fluorescence, that is, of emitting a light of its own, under the excitement of blue or violet lights. The crystalline lens, itself, is not of a homogenous composition, but has a crystalline structure of six branches. This is the cause of the stars appearing to us with rays. All attempts

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to explain this phenomenon were vain, until it was found to be in the visual organ itself. It is for this reason that the crescent of the moon, when it is very thin, seems to be double or triple to some persons.

These facts are enough to show to any one how prone the untrained eye must be to error and self deception, and that seeing is not a physical but a mental act. In infancy, the eye is aided by the hands or touch to acquire experience of the nature and consistency of things; later in life, the eye asserts its superiority by instructing the hands to perform ingenious and cunning work. The two senses seem thus to continue mutually to assist and act upon each other. Touch lends to sight material aid and support. The eye refines and gives intelligence to the material sense of touch, so that when sight is wanting touch takes its place and performs its duties.

The eye in its direct and steady look embraces but a small compass of actual sight; in fact, we clearly see but a small point, which comes just in the focus of the eye; and it is owing to a quick vibratory movement of the eye that we are able to see large extents apparently at the same time. To this is due the almost universal error of seeing figures or landscapes only in parts or sections. Observe a number of persons who are looking at a sunset for instance. One will go into exstacies over the form and color of a cloud; another a bit of greenish sky, or a golden ray of light, or the transparent purple of the distant mountain, or the mysterious shadow of a tree or rock. Very few will embrace the whole scene in all its magnificent effect, to the production of which all these different parts contribute and are necessary. To enjoy the full splendor of the spectacle before you, the whole and all its parts must be comprehended at one glance. But the importance of this is not appreciated by persons who have the habit of looking at the world as through a microscope. Art, in its first principles, aims at correcting this defect. The first thing taught is to see the whole of the figure at one glance, and then to keep the whole in your eye while working on every detail. The parts are not neglected while their relative value to the whole is measured and kept in view.

If, by what I have said regarding the eye, anything is proven, it is that there are many persons who pass through life in unconscious partial blindness. The beauty of this earth, and the rich treasures of knowledge, are as though they existed not, at least for them; and they literally verify the truth, that "having eyes, they see not." The square sheets of paper on these walls are mute witnesses to the truth of what I have endeavoured to prove. They represent a great variety of conditions and developments of the eye. The crude first attempts testify to the imperfect vision of the untrained natural eye. But gradually, step by step, the progress is traceable; until, after a few months, the refined outline and delicate shading announce the fruit and reward of diligent application, of hard and assiduous work. Yes, work! the author of each drawing alone can tell how much work his drawing represents. And the roughest of these, that look like failures, are often the greatest triumphs of difficulties overcome. There are few that one would be tempted to frame, and give a conspicuous place in the parlor. They were not made for that. They are exercises and struggles, upon rough paper, with common crayon, and show rather the traces of conflict than the facile prettiness everybody has been obliged to admire in drawings done at school.

The lecture closed with some statements in reference to the present condition of the school.

FREDERICK DENISON MAURICE.

The recent death of this eminent man leaves a void in literature and theology, difficult to fill. He held a peculiar place as a writer, representing the broadest views of Theological thought, and the most hopeful and noble, if not the most profound aspects of modern Christian philosophy. He was closely identified with academical education in England, having been a graduate of Cambridge University, in the same class with Stirling, and under the tuition of Julius Hare; in 1840, he was elected to the Professorship of Modern History and English Literature in King's College, London, to which was added the Professorship of Ecclesiastical History. He was ever the idol of young men, as a sympathetic guide in questions of faith, seeking to answer all doubts, and encouraging rather than repressing an honest spirit of inquiry. The publication in 1853 of his 'Theological Essays' raised a storm of hostile controversy, especially in relation to his views of the doctrine of Eternal Punishment; but Maurice, although he had historic doubts in reference to the usual interpretation of the word 'eternal,' was not a Universalist: he said that he was not, in so many words, in a personal conversation with the writer of this article. He did not profess to set limits to the woful and terrible consequences of sin, but he regarded them purely in a moral and spiritual light. As a theologian he advocated a system of a doctrine of which Love, or Christian charity, formed the central life and source; and he looked upon Redemption as an accomplished fact for the race, as something which each soul had but to open its eyes and behold, and enjoy like the light of the midday sun. It is however difficult to arrive at his real views in theology and in philosophical questions, owing to the vague and inconclusive character of his style, and the want of a clear, logical method of statement.

With Julius Charles Hare, Dr. Arnold, Benjamin Jowett, J. M. Newman, Whately, Trench and Stanley, he was one of the earliest leaders of the Broad Church party in England, and a champion of free thought and spiritual liberty, contending for the full rights of reason and of the rational interpretation of revealed truth. As the friend of John Stirling, and the beloved teacher and friend of F. W. Robertson, Charles Kingsley and Alfred Tennyson, there must have been something nobly liberal and beautifully genial in his spirit.

From his having been chaplain of Guy's Hospital in 1836, he was brought into intimate contact and relationship with the poor and the laboring class, and this led to his advocacy of a system of intellectual and social organization among workingmen on Christian principles, which finally resulted in the establishment of the Working Men's College in London, of which he acted as Principal for many years. An effort was made by his many friends, among them the first living names in England, to have his remains placed in Westminister Abbey, but his family, probably in harmony with his own modest spirit and what would have been his own wish, would not concur with this plan; and he was buried in his family tomb at Highgate where also near by sleeps the dust of a kindred spirit, Samuel Taylor Coleridge.

Maurice was a voluminous writer and though not a man of the greatest amount of force, yet he has exerted a profound influence on the modern mind, as an advanced and original thinker. He was a pure, unselfish man, intensely English in his prejudices, but in his true thinking hopeful, bold and catholic, though his spirit was Johannean rather than Pauline, meditative and subjective rather than argumentative and doctrinal, and loving to dwell on the love rather than the justice and power of the divine nature J. M. H.

THE HASSLER EXPEDITION.

ANOTHER LETTER FROM PROF. AGASSIZ—SIGNS OF GLACIAL ACTION IN THE SOUTHERN HEMISPHERE.

[The following letter from Prof. Agassiz, on board the steamer Hassler, was read, on the 16th inst., at the annual meeting of the National Academy of Science, held in the Smithsonian Institution, Washington]:

MY DEAR PEIRCE: Seven years ago, while in Rio de Janeiro, I had the pleasure of sending to you the first notice of my discovery of glacial phenomena within the tropics. I am delighted now to be able to add one link more in the chain of evidence of the almost incredible extension of ice-fields *during* a comparatively recent period in the earth's history. The day before yesterday I was allowed, notwithstanding the quarantine, to land and examine a hill called the "Mount," situated on the western side of the bay of Montevideo, and there I found the most northern erratics thus far noticed in the southern hemisphere outside of the tropics. The facts are as follows: The "Mount" lies in latitude 34° 53′ south and longitude 56° 14′ west. The general form is that of a flat cone, but upon a close examination it may be perceived that the sides do not slant uniformly, but present eastward two slight rounded and very flat prominences, and one westward, hardly sufficiently marked to be called knolls, and yet characteristic enough to deprive the hill of any resemblance to a depressed volcanic cone. The height of the hill is 465 feet above the level of the sea. Its geological structure is very simple and uniform throughout. It consists of very hard silicious clay slates of a dark bluish or greenish gray color, almost black in parts. These slates trend in an E. S. E. and W. N. W. direction, and stand almost vertically upon edge, so that the surface of the hill exhibits everywhere straight lines of these vertical slates running in that direction. Under such circumstances it might be expected that the surface of the hill should be very rugged, and exhibit everywhere the broken edges of the upturned strata. But this is by no means the case.

All these ontcropping strata are cut, as it were, to one level, corresponding to the outlines of the hill; in other words, they exhibit all the characteristic features of those "*roches montonnees*" of the northern hemisphere, consisting of more or less inclined strata, the outcropping surface of which has been considerably worn. Here, as there, the scratches and grooves are wanting; but the general form of the hill, with its flat, rounded, knoll-like projections along the slopes, leaves no doubt in my mind that the Mount of Montevideo is a hill, shaped by glacial action, akin to the well known "*roches montonnees*" of the North.

Should this evidence not be of a kind to satisfy those who are not very familiar with glacial phenomena, I am able to add other facts which can leave no doubt in anybody's mind that erratics are scattered over this region, whatever be their view of transportation of drift, and that we have here in the southern hemisphere erratics much nearer to the tropics than any thus far observed by earlier investigators. Upon the upturned edge of the slaty rocks which make up the whole mass of the mount are scattered loose pebbles (never exceeding a foot in diameter, and for the most part much smaller) of quartz, granite, gneiss, and a kind of granite sandstone, contrasting in a marked way, by their light and color, with the dark slates upon which they rest. As there are quartz veins in the slate *in situ* the quartz pebbles are of no account as evidences of the foreign origin of the loose materials scattered over the surface of the mount, but the granitic, gneissic, and sand-stone like fragments are unquestionably derived from rocks not anywhere in the place in the vicinity; they are true erratics, and they are scattered upon the whole surface of the mount to its very summit.

The question now arises, where do these erratics come from? I hope in the progress of our voyage to add some more facts upon this point, when I may attempt to answer it fully. For the present let me only say that if they are derived from a more southern exposure, the agency which has transported them northward must have passed over the mount at right angles with the trend of the strata of the hill. Without entering at present into a discussion of the theoretic side of the subject, let me only insist upon the fact that we have here erratics in the 35th degree of south latitude, and that according to Darwin's account. in his admirable "Journal of the Voyage of the Beagle," they are more and more abundant from the 41st degree to Cape Horn; just as in the northern hemisphere we find them increasing or fading in importance as we move from the Northern to the Southern States, or *vice versa*; this showing plainly that the erratic phenomena are cosmic phenomena connected with the climate of our globe, and in no way depending upon upon local cataclysms,

Ever truly your friend,

LOUIS AGASIZ.

Montevideo, Feb, 26, 1872.

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SCIENTIFIC.

Xylonite is a new substitute for wood, ivory, and tin, prepared by kneading oxide of zinc with collodion and camphor. The mixture is pressed into moulds of any desired form between heated metallic plates. It should be kept from the fire, as it is very inflammable.

Freezing by Mechanical Action.—M. Toselli has announced to the French Academy of Science that he has succeeded in producing an amount of cold just below the zero of the Fahrenheit scale, by simple mechanical action creating rapid evaporation. He employs a wheel formed of a spiral tube, both ends of which are open, set vertically and half immersed in the fluid to be cooled, so that the latter passes constantly through the whole length of the tube, half of which is constantly above the liquid, and, being wet, gives rise to active evaporation and consequent refrigeration within it.

Fluorescence.—At the meeting of the American Institute March 27th, President Henry Morton, of the Stevens Institute of Technology, read a paper on "Fluorescence," or that action by which rays of the higher purple, or even invisible light, such as produce most strongly photographic action, excite in certain bodies lower rates of vibration, resulting in the emission of light, generally of a red, green or clear blue color. This paper was illustrated by a number of striking experiments. Thus a flask of solution of chlorophyl, (a green coloring matter obtained from leaves,) which is of an olive green color, being held in a beam of blue light proceeding from a "vertical lantern" appeared to be full of a blood red liquid. Various solutions colorless in ordinary light were then shown to exhibit the brightest hues when illuminated by the violet rays of the lantern, or those obtained from the electrical discharge of the Professor's large coil in rarefied gases. The speaker then announced that in the course of the examination which he had been making of such substances, he had encountered one which he believed to be as yet unknown, and which possessed the property of developing light by fluorescence in a pre-eminent degree. This body was obtained from petroleum, and he would propose to take for it the name "Viridin." The word viridin had been already applied as a synonym for chlorophyl, but was now practically obsolete, and too appropriate to the present substance to be thrown away. A large drawing of a flower, with leaves painted seemingly in light umber tints, was then shown and illuminated by electric discharges, when it appeared of the most vivid green. The peculiar fluorescent spectrum of this body, and its relations to the spectra of other substances was explained, and many other illustrations were exhibited.

Ozone in Chicago.—We learn from the *Chicago Tribune* that a company has been organized in that city for the production of ozone on the large scale, for use as a disinfectant. The American Ozone Company, as it is called, has Dr. John H. Rauch, the efficient Health Officer of Chicago, for President, Dr. J. V. Z. Blaney, Emeritus Professor of Chemistry at the Rush Medical College, for one of the Vice Presidents, Jas. R. Blaney for Secretary, C. Gilbert Wheeler, Professor of Chemistry at the Chicago University, for Treasurer, and Baron J. H. DePalm for Superintendent. The *Tribune* says:

Its great anticipated value, as a remedial agent, arises from the fact that air impregnated with ozone hastens the oxidation of substances which the ordinary stock of oxygen in the air is unable to purify.

The effluvia and miasma which generate disease are described as minute combinations of carbon, hydrogen, and nitrogen, which cannot be oxidized and destroyed by the ordinary oxygen of the atmosphere. Professor Chanveau, in a recent paper before the French Academy, affirmed that the propagating germs of contagious diseases are not disengaged gases, but solid corpuscles. Dr. Sanderson, of England, goes further, and describes these solid corpuscles as organized beings, self-multiplying organic forms. All these zymotic influences, as well those that cause inflammatory, bilious, and typhoid fevers, as those which cause cholera, and probably small-pox, consist, it is thought, of the absence of ozone in the atmosphere, and can be removed by supplying it. The quantity of ozone in the atmosphere is capable of very exact measurement, and is found to be least where the filth and other influences that absorb oxygen are excessive, and greatest in the pure country regions or by the sea coast, where the air is most invigorating and healthy. Pigstyes, sewers, and densely-crowded street-cars, low theatres, and all crowded assemblies, present instances of the most entire absence of ozone. Mountain tops, and all healthy rural districts, present atmospheres most heavily charged with it.

Certain flowers—the Narcissus, hyacinth, mignonette, lily of the valley, etc.—develop ozone in closed vessels, and hence Professor Mantegazza recommends the planting of flowers in marshy districts,—a recommendation in which Nature had preceded him.

The Superintendent in his published letter proposes to use ozone, 1st, as an anti-miasmatic, introducing it into hospitals to destroy all infectious germs and effluviæ, and to purify the air; 2d, as a disinfectant to be thrown into the sewers to destroy noxious gases and disease-germs arising from the decomposing matters; 3d, as a direct remedial agent, especially in consumption and diabetes, when taken internally in cod liver oil and other oils; 4th, as an antiseptic, to restore to sweetness tainted meat and to preserve it from putrefaction; and fifth, as a bleaching agent, not only for fats and oils, but also for syrups, for fabrics made of linen, cotton, or silk, and for the cereal grains, even.

The precise method by which this ozone is to be produced, is not stated. The Superintendent says only that by means of a very simple and inexpensive process, it can be produced in any building, and introduced into any room or hall, uniformly, and at all times, day and night, and at all seasons. The machine can be operated by the most unscientific person, who will have it under his or her complete control, to generate as much or as little ozone as circumstances may require; and that person's actions can be guided, without any possible mistake, by means of an ozonometer, which may be worked in conjunction with a sepometer, the latter indicating the amount of noxious gases or effluvia contained in the air, and necessary to be removed therefrom; while the former will indicate the degree of ozone emitted by the generator for the purpose of performing that required duty,—thus obviating any chance of surcharging the atmosphere with that otherwise vitalizing agent.

The *Tribune* says, editorially:—

The object which the Chicago Company proposes to serve is to supply ozone as a disinfectant and invigorator to dwellings and cities, in much the same manner as gas and water are now supplied, or in whatever quantities may be needed. In short, it proposes to give everybody that wants a change or air and climate without going away from home. The feasibility of such an enterprise depends upon the cost at which the article can be made and furnished, and its availability in commercial quantities for out-of door use. The danger would be, that any available supply that might be furnished commercially would be like the "fire-extinguishers" so extensively advertised a few years ago. It might be excellent as a laboratory experiment, but insignificant as a means of neutralizing the noxious effluvia that arises from the million filth-holes of a great city, or from the swamps and marshes in which our endemic diseases are generated.

Remarkable Solar Halos.—Professor W. W. Johnson of Kenyon College, Gambier, Ohio, writes as follows to the *Cincinnati Gazette*, under date of March 27th:

A remarkable and very beautiful display of solar halos was witnessed here on the morning of March 2. My attention was first called to it at about 10:45, at which time the sun was considerably east of the meridian and about 40 degrees in altitude. The atmosphere was very hazy in the direction of the sun, but at that time it was clear in the opposite quarter of the heavens. A bright white circle, parallel to the horizon, passed through and extended far on each side of the position of the sun. This circle soon became complete, as the mistiness extended over the northwest quarter of the sky. At the same time there appeared two white arcs, each intersecting the circle at a sharp angle in the point directly opposite to the sun, where the confluence of the three produced a bright spot or mock sun. Turning now toward the sun, a magnificent spectacle met the eye. A circular halo completely surrounded the sun, at a distance of twenty-two degrees. This was colored like the rainbow, but was red on the inner and blue on the outer edge. The sky within the halo was perceptibly darker than that beyond it. At the highest point of this circle it was touched by a concave arc of less curvature, tinted in the same manner. This arc appeared to be elliptical in form; it partially enveloped the circular halo, extending downward below the horizontal white circle above described. The point of contact directly over the sun was intensely bright, and so also was the point directly under the sun, where traces of a similar but shorter enveloping arc were to be seen. A fainter colored arc was also seen above the principal halo, having the prismatic colors arranged in the reverse order. But the most remarkable feature of the phenomenon remains to be described. This consisted of two rainbow tinted arcs occupying, as it were, the lower corners of the picture presented to one facing towards the sun, one being in the east, the other in the southwest. Their convexities were turned towards the sun, and each reached the horizon on the side nearest the sun. They appeared to be portions of circles about the size of the ordinary rainbow, and their colors were arranged in the order therein seen (namely, the blue occupying the inner and the red the outer edge), but they were very differently situated relatively to the source of light, the center of the rain arc being the point exactly opposite to the sun, while the centres of these must have been about ninety degrees from the sun and some fifteen or twenty degrees beneath the horizon. These phenomena are ascribed to the action of frozen mist or minute crystals of ice suspended in the atmosphere upon the sun's light. The writer is not aware that the last mentioned arcs have ever been described in scientific works; the remainder have been satisfactorily accounted for. Thus the horizontal white circle first mentioned, called the parhelic circle, on account of the frequent occurrence of parhelia or mock suns upon it, is due to reflection of light from the surfaces of the frost crystals. When the upper regions of the atmosphere are filled with these crystals, a portion of the surfaces they present will be so situated as to reflect the sun's light to the eye to whatever part of the heavens the line of vision be turned, thus producing a white light all over the sky. But as the crystals, many of which are elongated in form, descend through the air, they tend to assume a vertical position, and the greater part of the surfaces will be vertical. It is plain that a vertical mirror will make an image of the sun having an altitude equal to that of the sun itself. Thus there will be formed by the surface in question, as it were, a continuous image of the sun, situated at a constant distance above the horizon; in other words, a horizontal circle passing through the sun as above described. The colored circles, on the other hand, are due to the refraction of light. It has been mathematically proved that a ray of light passing through a prism of ice, entering and emerging by surfaces inclined at an angle of 60 degrees, will suffer an angular refraction, which, for all positions of the prism, will lie between certain limits. This may also be experimentally verified, and be it observed that such surfaces exist in ice crystals. Moreover, the greater part of the light refracted by a multitude of crystals, having all possible positions, it is shown will suffer a refraction near to the smaller limit, which is about twenty-two degrees. Thus it appears that all the refracted light which can reach the eye will come from a certain zone of the sky, but most of it from the region just beyond a circle of twenty-two degrees distance from the sun, which circle will form a well defined edge of the illuminated portion of the sky. The elliptical arc which touched the circular halo is much less common than the latter, but is yet not unfrequently seen, and has been ascribed to a preponderance of crystals having their edges horizontal.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE P. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, APRIL 27, 1872.

THE words of President Cummings of Wesleyan University at the recent session of the New York East Methodist Conference are worthy of attention and, indeed if they were regarded in the light of advice to be followed it would be better for the educational interests of the county. In speaking of Wesleyan University and its prospects, he argued strongly against an increase of the number of denominational institutions of education. He said he was in receipt of a great many applications from young men, telling him what other institutions had offered them, and asking if any further inducements could be offered by the Wesleyan University. This he regarded as placing an old and honorable institution in competition with secular ones, in fact placing them in the position of luring students to come to them, which he thought was unnecessary. But that which is especially worthy of note is the following in reference to the number of educational institutions and the students for them. He urged that the number of students is far too small for the institutions in existence, and consequently the denomination has not a collegiate institution that may be said to rank first-class, etc. And in order to remedy this evil, he recommended a concentration of the denominational donations on a few institutions, in which thought we heartily agree.

THE appeal of Amherst College to the Massachusetts Legislature for the sum of $100,000 has been rejected by that body and so the College will have to get along for another year, at least, as best it can, or else appeal to its alumni or wealthy friends. We sympathize with the College for we feel that it, as well as many other institutions in the country, are sadly in need of money and that their future growth as well as present prosperity depends to a great extent on an enlargement of their funds. But while we thus sympathize we are not sure that contrary action on the part of the legislature would have been entirely justifiable. During the debate on the resolution several amendments were offered, which added interest to the discussion and if they had been accepted and the bill passed would perhaps have embarressed the college somewhat. One speaker, Col. Nutt of Natick, proposed to make the gift conditional upon the college admitting women to its privileges and supported his views in a vigorous speech in which he stated that he was ashamed that twenty young women of the State of Massachusetts were to-day seeking in New York, Ohio and Michigan, the collegiate education they were denied in their own State. Col. Nutt was supported by Gen. Quincy of Boston and Dr. Breed of Lynn. This amendment was finally adopted by a vote of 106, to 67, Another amendment to the effect that the gift be made conditional upon the friends and alumni of the college raising an equal sum was also adopted. Two others were proposed and discussed, one that the $100,000 be reduced to $50,000, and the other, that the grant be made, but that it constitute a permanent fund whose income should be used for salaries and to assist worthy students without regard to their future intentions in life. The discussion on the resolution occupied one afternoon and the next forenoon and was able on both sides, but the bill was finally defeated without a count by a large majority. The friends of the college were much disappointed in the size of the vote against them, it being larger than they had expected.

MR. LOWELL'S PROSE

We well know that among a highly respectable class of writers it is invariably regarded as a great sin on the part of any author, if he happens to be entertaining. They are confident that no such crime as that can ever be laid to their charge; and it is therefore with a safe conscience that they proceed to the task of showing up the contemptible weakness and poverty of those whose works the public will persist in reading. Our fellow-countryman, Mr. Lowell, is just now undergoing this process of having his pretensions exposed, or perhaps would be undergoing it, if people could be persuaded to pay any attention to his critics or to glance even hastily at what they write. Among educated men his position is well assured. No one denies that he is the foremost representative of pure literature in America, that as a critic he has no superior among members of our English-speaking race. And he writes critical essays which men like to read. This is a thing that will never do. What would become of numerous magazine writers if it were required that their criticisms should be anything else than dull? Naturally he has been pounced upon since the publication of his two prose works, by men who feel that their craft is in danger, who are anxiously inquiring what is to become of them, if once the idea gets into the head of editors that critical notices should be so written that men, as ordinarily constituted, can read them and survive. The latest one of these reviews appears with the title at the head of our article in Scribner's Monthly for May. Assured by some newspaper statements that this contained "some good points," we valorously waded through the dozen pages which go to make it up. We candidly confess, before commenting upon it, that we are not equal to it at all. The author assures us that there is said to be somewhere "a sublime ecliptical point of view from which all the apparent contradictions and confusions in human thought are restfully interpreted, and reconciled to the speculation of the transcendentalist without his effort." Unfortunately for us that "sublime ecliptical point of view" it has not been ours to arrive at; and owing to this fact, we suppose there is no "restful interpretation" to our gross sense of much that appears in this article. We can not make out what the man is driving at a good share of the time and are only consoled by the reflection that the writer himself appears to be no better off. Were it not for the metaphysics, we should say that much that appears in the article was trash. That we can not call it, because we don't understand it; but we are safe in declaring that it is the *ne plus ultra* of high philosophical twaddle.

It is difficult to say whether in the article the literary or grammatical criticisms are more absurd. Still while in this respect a very happy balance has been preserved between the two, we are inclined to award the palm to the remarks on grammar. Partly because we can understand these. The critic has evidently been a faithful student of the stuff that is generally put into English grammars, and has carefully examined all the valuable instances of errors of syntax which district-school teachers think they have found in our great authors. One of his own sentences will show to scholars his exact point of view without any further explanation. "The opportunity or the inclination fails *to* him," he says. This is the painful correctness of the man ignorant of the history of English grammatical construction or of classic English usage, this is the way of him who writes the language like a pedant and not like a gentleman. He is so unaccustomed to English composition that he speaks of the employment of *I* and *we* in the same essay as a noteworthy fact which demands explanation. For four or five columns he denounces Lowell for speaking of Milton' language as marked by "captive epithets." He first shows to his own satisfaction that Milton did not use any epithets employed by others, and then comes to the conclusion that Lowell did not mean anything at all. The critic was here misled by his own practice. He knew that most that he himself was writing was innocent of any meaning, and accordingly he took for granted that great critics like Lowell were in the habit of doing occasionally, what he was in the habit of doing generally. The expression, "captive epithets," it may be said in passing, furnishes no difficulty. Any one who has made a careful study of Milton, knows perfectly well how many of his epithets were suggested by expressions in the Latin or Italian poets or were taken directly from them. One illustration will suffice. In the opening lines of the second book of the Paradise Lost, the poet speaks of the "Gorgeous East" which "showers on her kings barbaric pearl and gold." Does "barbaric" qualify "kings," or the nouns which follow. Here the *barbarico auro* of the Latin poet shows quite conclusively what it is that the English epithet qualifies. We might multiply such instances by scores.

But much fault is found with Lowell's style. What is the difficulty with it, one may ask. Why, the leading vice is "want of free and harmonious tone." Mr. Lowell could not "conceive or create a symphony of his own." There you have it. We all know now what the difficulty is. To this lack of "harmonious tone," the critic ascribes the introduction of some words and expressions which strike his refined taste as not being quite the correct thing. Moreover, Mr. Lowell uses some words which the critic does not understand. It may be a fault; and if he will hereafter resolutely confine himself to words of three syllables or less, he will stand a fair chance of having most that he says comprehended by the men of the class to which his reviewer belongs.

We have given more attention to this criticism, than its affected candor, miscellaneous bosh, and grammar-school style require. Others have simply glanced at it; and we do not suppose that it has ever been read through by any one save ourselves, the proof-reader, the author, and some one allied to him by ties of blood whom personal affection has induced to undergo the heroic sacrifice. Yet we write this for the sake of persuading some one of our readers to attempt the task. If he succeeds in getting through it, then let him read any article contained in "Among My Books," or "My Study Windows," and mark the difference between the man who has something to say and says it, and the man who thinks he must say something and spouts out a wishy-washy flood of nothings in consequence. It would be an invaluable lesson in style to the student. In reading Mr. Lowell he will be both delighted and instructed; in reading his reviewer he may get an idea of "free and harmonious tone," but he will certainly be fearfully bored.

"PROFESSORS IN THE CORPORATION."

To the Editor of the College Courant—SIR: I have no desire to enter into controversy with my friend, Professor Whitney, on the subject of the election of Yale Professors into the Corporation of the college. But your readers, if they reflect upon the matter will perceive,—and, certainly, his own clear mind cannot fail to notice,—that the suggestion which he makes, and to which he assumes that I have objected, has no parallelism at all with the case of which I was writing. The plan of which he speaks is that of "having among the Fellows a representative of each of the grand branches of the University"—a Professor who should be "a selected representative" of his associates. As there are five or six "grand branches of the University," this plan would involve the election of all, or all but one, of the new members by the several Faculties—each of the Faculties electing one member from their own body,—or, at least, the election of one member from each of the Faculties, who would be their representative, and who, because he was thus elected, could scarcely fail to feel a sense of responsibility to his associates. Under such circumstances, I should have no "misapprehension of the relation of this selected representative to his associates," and I think it quite possi-

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ble that he might "be to them a friend at court only." To such a plan—whatever my feeling might be, in case it were before the graduates for discussion—I have not made any objection, for the simple and sufficient reason that it is not thus before the graduates. The plan which has been adopted, and which is about to go into operation, is as completely different from this as any that could easily be devised. The members of the Corporation, who are now to be elected, are *not* to be chosen *by* the several Faculties, each one having a representative of its own, but by a body as distinct from them as the permanent members of the Corporation are, or as the Trustees of the Winchester Observatory, or as the General Association of Connecticut—namely, the whole number of the graduates. They are, also, not to be chosen *from* the several Faculties, so that each shall have one, but according to another arrangement altogether. All the safeguards, which would attend the plan suggested by Professor Whitney, disappear on the present plan; and if Professors are elected now, they are not elected as representatives of each of the Faculties, to "aid in bringing forward matters relating to the interests of their own branch" of the University, but as "rulers" and members of the governing body. They become separated from their associates, and become both governors and governed at the same time. They become the employers of their associates. They have control of the funds of the institution, and have power, according to the charter, even to "remove" their associates "at their discretion."

If Prof. Whitney intends in his article to express his wish to establish a system in Yale College by which two or three of the Professors, elected by the graduates, and perhaps all of them from the Academical or some other single department,—certainly, with no reference to their being representatives of the several departments,—shall thus be intrusted with the highest power in the University, to the exclusion of their colleagues, I have nothing to say against his holding this opinion. I have written only for myself. I frankly confess, however, that I do not wish to see any such system established; and, though I know nothing of the opinions of my associates in office or of my fellow-alumni, I cannot believe that any considerable number of persons, either inside or outside of the college, have any such wish. To my own view, the *very worst sort of governing body* for this college, or any other, is one that is, wholly or partially, composed of *a small portion of the Professors, not elected by their associates and having no responsibility to them.*

So far as relates to what is said of the inability of the President to represent all the bodies of instructors, I may say that it appears to me that, with the introduction of such changes in his minor duties as can readily be made and ought to be made, he can easily meet with all the Faculties whenever they desire his presence, and that he can, thus, become so intimately acquainted with their wants and interests as to be their common representative. But, whether such an inability exists and is irremovable or not, no remedy for it is provided in the election of a professor of one of the departments *to govern not only his own department, but all the rest.*

Professor Whitney says, "The yoke of the Corporation has never rested heavily on the faculties." I am happy to give my heartiest assent to this proposition. The fact that it has not, has been the greatest blessing which Yale College has enjoyed in the past. The object of the suggestions, which I offered in the COURANT of the 13th, was to secure, if I could, the *continuance* of this blessing; to provide against three or four dangers (incidental to the change in the constitution of the Board) which might cause the yoke to rest heavily in the future. One of these dangers—and, as it appears to me, not the least of them—will be prevented, for all coming time, if we establish as a principle, at the very outset, that, so long as the plan of election which has been adopted shall continue in force, no Professor in Yale College shall be chosen a member of the Corporation. I do not, any more than Professor Whitney, regard the existing Corporation as "a body of meddling managers among whom a Professor might not be trusted lest he imbibe their tyrannical spirit." But, as we are now determining rules and establishing precedents which shall apply not only in this year but in future years, I wish to prevent any Professor from carrying into the body a "tyrannical spirit" or becoming a "meddling manager." Let me not be misunderstood. I wish to awaken no suspicions of my colleagues in any department of the college. The only Professors whose names have been mentioned in connection with the new office are warm and valued friends of mine. One of them has been my associate from boyhood. I think some of the Professors of Yale College are among the wisest men, in all educational matters, who are to be found in the country. But I regard the two offices—of governor and governed—as inconsistent with each other, and I do not believe it is wise to intrust one Professor, *whoever he may be*, with power over another.

The case which Professor Whitney alludes to in the Theological Department is not a case in point. If any department of the college finds in the Corporation a gentleman every way fitted to lecture for a few years, as supplying a vacancy in some chair of instruction, I have no objection to giving him an invitation to do this work and to giving him a share in the deliberations of the faculty of the department. But I think all candid minds will perceive the difference between such a step as this and the election of one who holds a Professorship into the number of the Fellows. The distinguished gentleman who, for the past few years, has aided the theological department, by giving instruction as a lecturer, has never received the appointment to a Professorship. Much less was he, while holding a Professorship, made a member of the Corporation.

My communication has been longer than I intended to make it. I am happy to find that Professor Whitney assents to all the other suggestions, which I made in my former article, and I hope that this one, though it may not seem as well-founded to him, will meet the approval of the great body of the graduates. I believe it will. In regard to the statement that the Corporation have made provision that the membership in their body shall not be held by those who occupy the professorial chairs, it was made on what I supposed to be good authority, and I am confirmed in my belief that it is in accordance with the facts of the case by what I have since heard.

Yours very truly,

T. DWIGHT.

Yale College, April 22, 1872.

A CARD.

For the College Courant: I observed in one of the numerous "tickets" recently published, that I was named as a candidate for election into the Corporation of Yale College. Lest some graduate whom this may reach in time, should throw away his vote by casting it for me, I beg the privilege of saying in your columns that I am not a candidate for the very honorable office under consideration. For this there is at least one very good reason, namely, that if I should be elected and should accept the office, I should lose my professorship, which to me would at present be a serious evil. The Corporation has made it a law, that if any professor in the university shall be elected to and shall accept the office of Fellow in the same, he shall vacate his professorship.

It seems to me that that is a very wise provision; and that in such an institution no man, with the necessary exception of the president, should be governor of his peers, or be the trustee and ultimate manager of the funds from which the salaries of himself and colleagues are paid, or of funds in the application and use of which his colleagues are as deeply interested as himself. If the professors themselves had the privilege of openly electing a member of the Corporation as their representative, that would be another thing, and much might be said in favor of it.

THOMAS A. THACHER.

Yale College, April 25th, 1872.

YALE ALUMNI IN CINCINNATI.

The Yale Alumni, resident in Cincinnati and vicinity held their eight annual re-union at the St. Nicholas, on Tuesday evening, April 15th. The following officers were chosen without a dissenting voice to serve during the ensuing year: President, Judge J. C. Collins; Vice-Presidents, James Gilmore, W. McAlpin, P. H. Burt, T. M. Hinkle, M. C. Shoemaker, A. R. Dutton; Secretary, Peter R. Taft; Executive Committee, J. C. Collins, Peter R. Taft, C. E. Smith, M. C. Shoemaker.

Upon motion of Judge Taft a committee of five was appointed to draft resolutions, relative to the late lamented Professor S. F. B. Morse. Remarks suitable to the occasion, were made by several of those present, when the following resolutions were reported, adopted and ordered to be transmitted to the memorial meeting in progress at Washington:

WHEREAS, The death of Professor S. F. B. Morse, of the class of 1810, which has been recently announced, has closed a long and illustrious life of scientific discovery and invention; and

WHEREAS, He was known and honored throughout the civilized world, as the author of the most brilliant, useful and purely scientific invention of modern times.

Resolved, That in the career of Professor Morse, the world has beheld and acknowledged the highest triumph of natural science, and that while his death causes a profound sensation in all intelligent minds, his memory will be cherished with peculiar regard by the Alumni of Yale College, as of one who, by a legitimate pursuit of the principles he had been taught as a student, has conferred unparalleled honor on their Alma Mater.

Resolved, That these resolutions be entered on the records of the proceedings of this club, and that a copy be presented to the family of the deceased.

ALPHONSO TAFT,
W. F. POOLE,
JAMES GILMORE,
H. P. BOYDEN,
W. MCALPIN,
} Committee.

The club then retired to the dining room, where after grace had been pronounced by Rev. Mason Grosvenor, of the class of 1827, due appreciation was shown of the good things of the table. These being disposed of, and "Gaudeamus" sung, the Secretary read several letters, received from President Porter, and different members of the Faculty. Mr. W. S. Scarborough the retiring president of the club, then spoke substantially as follows:

The statement in the letter of Prest. Porter that "no graduates of Yale are more cordial in their love for their Alma Mater than those who reside in Cincinnati and vicinity," must have been personally gratifying to all present. While I know there is no want of sincerity in these words I am mistaken if they are not to be attributed as much to the fact that this club was the earliest organization of its kind, as to anything he knows or remembers of its individual members. Since its organization others of like character in most of the leading cities have been established. There is reason to believe they will soon be formed in all the centres of population throughout the country. It is pardonable in us to suppose that they have exerted and will continue to exert no inconsiderable influence in favor of our Alma Mater.

Yale College has achieved, yet by no means without the aid of her graduates, high distinction and rendered invaluable service to the educational interests of the country. With her own inherent force she would unaided achieve much in the future. But she could not accomplish by any means, what she would or ought, without the sympathy and earnest coöperation of the Alumni. Potential, in this respect, in securing an unfailing and general interest in the college on the part of all of the graduates, will be the change now taking place in the organic law of the college by which the alumni are to take part in the election of six of the fellows or mem-

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bers of the corporation. This change, whatever the causes that produced it, has I cannot doubt been hastened and assured through the influence of these associations of the alumni and the sentiments thereby engendered and expressed.

While the change will be hailed with satisfaction—I trust with increasing zeal for the honor and usefulness of the college on the part of the graduates—I am sure they feel that there has been no lack of wisdom or fidelity on the part of those who have had the management of the institution. I am also sure that it is their opinion that the conduct of the college and the ordering of its curriculum should for the most part be left with confidence to the faculties of the different schools.

President Porter in his letter "hopes the old college will not cease to deserve our confidence and affection." It has deserved them and we can all say we have been proud of "the old college." That pride has never been wounded. In the last few years it has been abundantly justified. I refer not so much to the unusually large bestowments made to her funds—to the gifts of Salisbury, Sheffield, Street, Farnham, Winchester and others who are of, or near the college and know well her worth, or to those of Durfee, Phelps, Collier, Battell, Marquand, Holmes and others at a greater distance, and thus indicating the extended sphere of her influence—I refer not so much to these bestowments as to the devotion, high purpose and breadth of view of the members of her several faculties. The growth of Yale College within the last few years has been accelerated and quite beyond anything in her previous history. This is true of her material condition and appliances. It is to be seen in the extent of her funds, though yet meagre and quite unequal to the demands made upon them. It is to be seen in the breadth and extent of the studies there pursued and the generous culture there fostered. It is to be seen in the outgrowths from the College proper, in the Sheffield School and the Schools of Philosophy and the Fine Arts—already well organized and quite certain of a successful career; and it is to be seen, specially and distinctly seen, in the earnest wise and liberal manner in which all questions involved in what is termed the "newer education" are met and discussed, the advocates of peremptory studies, on the one hand and of elective on the other being alike patiently heard, the Institution meanwhile making haste slowly, strenuously adhereing to the peremptory yet making room for, and giving dignity to the elective. Prof. Dana in his letter just read, refering to some of these and otherchanges says "and thus we move." I like these words. I would like to see them inscribed on all the new foundations and superstructures of the College.

I will not prolong these general remarks and will only add that the college, within the passing year, has been tried, I may say tested, by the resignation of President Woolsey, so well known and beloved by all of us, the honored head of the college for twenty-five years. This resignation created a great void. But the college without embarassment or delay has been able to fill it, and she had the ability and good sense, I may say self-respect, to fill it from her tried men on the ground, from the ranks of her faculties. She has filled it with Noah Porter, a worthy successor of the venerated Day and Woolsey, like them, wise, liberal and cultured in high and useful learning, and like them free from any symptom of sham, simple, earnest, and genial and withall, and better than all, a Christian gentleman.

Rounds of applause followed this earnest expression of feeling which was only increased by joining one and all in singing "Alma Mater." Mr. Lewis E. Mills in a very quiet but effective manner then gave expression to the following:

In the course of the wonderful growth of our country, the great west has become the ruling power of the Republic, and the States which were wilds when the govment was established are to day the rulers of the land. We have just passed through a great struggle for life, in which, thank God we have been successful and have made a nation which commands the respect and attracts the admiration of the world.

That struggle was long and the battle was fierce and the reason was that on both sides educated men took control of public affairs. We have schools which without money and without price give education to the multitude, but to our old Universities we look for that excellent training which shall give birth to the love of literature and awaken those thoughts that shall grow and bear good fruit in the ripening age of the young men of the land.

For the sake of the future as well as in memory of the past we are interested in the conduct of the affairs of Yale College. I therefore offer the following resolution:

WHEREAS, six of the Trustees or members of the Corporation of Yale College to fill the office of Fellows are hereafter to be elected by the Alumni, and

WHEREAS, We consider it a matter of great consequence to the University that some of these should be from the West where so many graduates reside, and where is the great growing power of the nation, we do therefore,

Suggest to our fellow Alumni whether in the West or in the East the name of one whom we consider eminently qualified to discharge the duties of the office and altogether deserving the honor, because he is a ripe scholar and a learned Judge, whose increasing years have each brought increase of knowledge of men and of the principles from which their varied actions spring, as well as of the practical needs of life and the best methods of attaining them; a graduate of many years; for a time a member of the Faculty; the giver to his Alma Mater of not only two sons who graduated with distinguished honor, but of material gifts; a man well known to be an ardent friend of liberal education at home and abroad; an enthusiastic lover of his old college and moreover because he was the first President of the first of the Yale Clubs organized in the United States which are now doing so much good—for these and other reasons we the Yale Club of Cincinnati and vicinity take great pleasure in presenting as our first choice from among all western candidates the name of Alphonso Taft.

At the close of Mr. Mills remarks the attention of the company was fixed upon Judge Taft and his response was waited for. After a moments delay he rose and said that Brother Mills' remarks were a complete surprise to him and were so personal as to be emba rrassing. He was at a loss what to say. He acknowledged the compliment which was intended by his friends and by the company who had received it with favor. He acknowledged also his enthusiasm as a friend of Yale College. He had not an ambition to be a member of the Corporation but felt that it would almost be ridiculous for him to decline this compliment. He had entire confidence in Yale College and its managers. Its faculty had always been thorough men. The public sentiment which prevails and has prevailed in and about the college is wholesome and worthy of all approbation. Merit without much reference to external circumstances is the object of regard. It has been said that in Boston the main question is, what does a man know? that in New York the inquiry is, how much is he worth? in Philadelphia, who is he? and it is suggested that in Cincinnati the question is, where was he born? But in Yale the question is, what has he in him? and what can he do? Taking his ability and his will together what does he amount to? Judge Taft spoke of the evident tendency to progress in the institution and its well deserved prosperity.

These remarks were well received and called forth a hearty endorsement of the resolution. The duty of nominating five other candidates was referred to a committee consisting of Judge Taft, W. S. Scarborough, J. C. Collins and T. M. Hinkle with instructions to report to the club at their convenience. Several other matters of minor importance were then dispatched. The members varied the entertainment of the evening with songs and so swiftly did the hours pass, that t'was midnight when the club rose and with one voice united in singing the parting song, followed by three cheers for Alma Mater Yale.

* * *

LITERARY.

Dr. J. M. Toner, Washington, D. C., proposes to issue a Medical Register and Directory of the United States. The object of the work is to present in one volume, the names and post-office address of the physicians of the United States, and the names and locations, etc., of the medical institutions in the different States and territories. To aid in its preparation a circular is to be sent to each physician, requesting answers to questions proposed. The work is to be published by subscription, the price being till May 1st, $5, after that, $6. S. W. Butler, 115 South Seventh street Philadelphia, is the publisher. . . . Harper & Bros., will issue in June a new singing-book by Phillip Phillips, entitled "Song Life." Specimen copies may be obtained, post-paid, for 50 cents, or a hundred copies for $35. . . . . Holt and Williams will soon publish "Taine's Notes on England;" Taine's on Intelligence;" "Smoke," a novel by Ivan Turgenef; and "My Little Lady," an English novel, by a new writer. . . . . Messrs. J. R. Osgood & Co., announce as in Press, "The True Life of Abraham Lincoln," by Ward H. Lamon; "Wood Scenery of New England," by Wilson Flagg; "Poetry and Criticism," by Ralph Waldo Emerson; "A New Volume of Sketches," by Bret Harte; "The Dickens Dictionary," by Gilbert A Pierce; "Crossing the Atlantic," by Augustus Hoppin; "Art Education, Scholastic and Industrial," by Walter Smith; "Pansies," by Mrs. A. D. T. Whitney; and "Olaig Grange," a Poem, edited by Herman Kunst. . . . . Roberts Bros. expect to have ready on May first, "Mirèio," a Provencal Poem, by Frederic Mistral; and "Paul of Tarsus," by a Graduate. . . . . *The Collegian of Kentucky University* is to be the name of a new quarto Monthly to be issued by the Literary Societies of that institution at Lexington. It is to have 20 pages, double column, and its publication will be commenced as soon as 500 subscribers are secured. It is to contain communications from members of the faculty, and the enterprise is approved both by them and by the Regent. The subscription price is $1.50 a year.

Periodicals.—The *Popular Science Monthly*, a new magazine edited by E. L. Youmans, and published by Appleton & Co., has at last reached our table. It aims, as the prospectus has it, "to give especial prominence to those branches of science, which help to a better understanding of the nature of man; to present the claims of scientific education, and the bearings of science upon questions of society and government." It is distinctly conceded to be an experiment, which will be continued for a year at any rate; and longer, if sustained. The editor says: "It will contain papers, original and selected, on a wide range of subjects from the ablest scientific men of different countries, explaining their views to non-scientific people." It appeals "not to the illiterate, but to the generally educated classes," aiming rather to diffuse than to create science. This first or May number strongly prepossesses us in its favor. The leading article is "Our need of it," the first of a series of original papers by Herbert Spencer on "The Study of Sociology." Then follow Proctor's paper on the "Receut Solar Eclipse," taken from *Cassell's Magazine*; T. W. Fowle on "Science and Immortality—an able and orthodox article—taken from the *Contemporary Review*; "The Source of Labor, from *Chamber's Journal*; E. B. Tylor's Review of Quetelet on "The Science of man," from *Nature*; Wm. Eassie, on "Disinfection and Disinfectants"; Quatrefages' lectures on "The Natural History of Man," translated by Miss E. A. Youmans; "Arthur Learned on the "Causes of Dyspepsia," from a new book on Imperfect Digestion, soon to appear; Luther Owen Pike on "Woman and Political Power," from the *Anthropological Review*; W. H. Cheadle on "The Early Superstitons of Medicines," from the *Fornightly Review*; An excellent Review of "Lubbock's Prehistoric Times," by T. M. Coan, Literary editor of the *Independent*; The Editor's Table, Literary Notices, Miscellany and Notes. We commend this new candidate for favor to the notice of our readers, confident that under the editorial charge of so able a scientist as Professor Youmans, its pages will always be

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a repository of all that is freshest and most reliable in science, while at the same time sensationalism and claptrap will be excluded. The subscription price is five dollars a year.

In the *Galaxy* for May two new continued articles are begun, "Faust" by Ivan Turgenief, and "The Cave of the Winds," by Maria L. Pool. General Custer, continues his account of his "Life on the Plains;" Gideon Welles has a second paper on "Lincoln and Johnson," wherein their plans of reconstruction are discussed; and "The Eustace Diamonds" is carried through four chapters. Junius Henri Browne treats of "Historic Lovers;" Albert Rhodes describes "The Arabs at Home;" and Richard B. Davey gives the history of "Donna Lucrezia Borgia;" The remaining prose articles are "The Mother of Jacques," by Katharine S. Macquoid; "The Proof of the Pudding" by Edgar Fawcett; and "Regina Dal Cin" by S. B. Luce U. S. N. There are also three short bits of poetry and the usual other departments.

In the *Atlantic* for May, Parton has the leading place and treats of "Jefferson in the Service of Revolutionary Virginia." "The Poet at the Breakfast Table," by Oliver Wendell Holmes, reaches the fifth conversation; and James De Mille's "Comedy of Terrors," and "Septimius Felton" have each their fifth installment, as has also the "Diversions of the Echo Club." The remaining articles are, "Who Won the Pretty Widow?" by Will M. Harney; "New York Dogs," by Charles D. Shanley; "French Democracy," by Herbert Tuttle; and "From Shore to Shore," by W. F. Stillman. Of poetry there are "Concepcion de Arguello," by Bret Harte; "The Story of Some Bells," by Grace Greenwood, and several shorter pieces. A large number of books are noticed in the literary department including a long review of Bryant's Odyssey.

The article in *Harper's* for May, which perhaps will be most interesting to college men is one by Professor Schele De Vere with the title, "Mr. Jefferson's Pet." It is a long and interesting article on the early history of the University of Virginia. We hope to make some extracts from this in our next issue. The remaining articles of *Harper's* make it one of the most interesting numbers that has been issued in some time. Porte Crayon presents the second instalment of "The Mountains," which is profusely illustrated. A second and concluding portion of "The Story of Tammany" by Rufus Home, which shows how that society became a political power, is given; Saltaire and its Founder" is treated by Geo. M. Towle, and forms a good sequel to "The Social Palace at Guise" in the April number; Chas. Nordhoff gives a first paper with thirteen illustrations on "California how to go there and what to see by the way"; and Eugene Lawrence has an interesting paper on "Inventors and Inventions." There are also as lighter articles, "Little Brown Fist, by Justin M'Carthy; "How the Baby crossed the Isthmus," by C. H. B. Richards; a continuation of "The Golden Lion of Granpere;" "A Good Investment," by W. J. Flagg; "Wallenstein's Horoscope," by S. S. Conant; "Old Kensington," by Miss Thackeray; "Father Higgins' Preferment," by J. W. DeForest; "Stolen Secrets," by V. S. Dodge; and "The Manhattan Will Murder," by E. S. Gould. The editorial departments are well filled and interesting.

With the May number *Scribner's* commences a new volume and promises and inaugurates improvements for the future. The new department "Nature and Science" under the charge of Professor Draper, of the University of the city of New York, not of Columbia College as we wrongly said a week or two ago, appears, and fine things are promised throughout the year. The present number has the fifth of Charles Dudley Warner's "Back Log Studies," two chapters of the Serial "At his Gates by Mrs. Oliphant" and the first article on "Draxy Miller's Dowry" by Saxe Holm. In "Our Educational Out-look" Mr. O. R. Burchard, advocates compulsory education. The leading article is "Traveling by Telegraph—Northward to Niagara," a finely illustrated description of the route from Washington to Niagara. The remaining articles are "My Brother" a poem by Sara H. Browne; "Fanny Winthrop's Treat," by Mrs. E. A. Walker; "Work in Rest," a poem by Geo. Lansing Taylor; Folk Life in Appenzell," by William Wells; Vasa Fictilia in History," by John H. Treadwell; "The Waif of Nautilus Island," by Noah Brooks; and "Frederic Mistral the Provencal Poet," by M. E. M. and C. T. Brooks. Of Mr. Wilkinson's article on "Mr. Lowell's Prose" we have given our opinion in another column.

In *Lippincott's* for May we have continued, Mr. Edward Whymper's "Scrambles among the Alps;" "The Strange Adventures of a Phaeton," and "Aytoun," and a second article on the Private Art-Collections of Philadelphia. There is also an illustrated article entitled "Sketches of Philadelphia." David G. Adee contributes an interesting sketch, "On Foot in Navarre;" Alice Cary tells of "A French Girl;" and Sarah B. Wister describes the "Sisterhoods of England." "Arnold at Stillwater" by Thomas Dunn English and "Our Farm in Redmud County" completes the number.

The *Eclectic* has a fine Portrait of Hamilton Fish and "Robert Burns;" "Science and Immortality;" "Norfosa, a story of Grand Cairo;" "A voyage to the Sun;" and a long article on "General Lee" from *Blackwood's Magazine*. "The Strange Adventures of a Phaeton" is continued and there are also "The Vintage of Portugal;" "A French Anarchist" and "Modern Manners, with several other shorter articles.

The *Journal of the Franklin Institute* announces a prospective enlargement and other improvements which will greatly enhance its value. Under the indefatigable labors of its editor, Dr. Wahl, its success seems to be fully assured.

The *Nursery*, the small children's favorite monthly, has a good variety of articles and illustrations calculated to please and instruct those to whom they are addressed. We notice especially "The Polite Rooster," "The Horse that knew her Master," and "The Story of Little Bluebeard."

Three Centuries of English Literature.*—This is a very poor book, about the poorest on the whole that we have yet seen, which treats of this subject. The opinion laid down again and again that Chaucer and Spenser are too antiquated and obsolete for the modern reader, is an insult to any man of ordinary intelligence. In the case of the more modern authors the facts are frequently inaccurate, and the criticism, to put it mildly, is absurd. Of course, like all other works of this kind, the authors selected, outside of those of the first rank, show the taste and reading of the compiler of the work rather than exhibit their actual importance in English literary history. Accounts of comparatively inferior men are frequently inserted, while greater names are passed over without mention. If this work be taken as a type of the instruction furnished in English literature in Great Britain, we have no reason to be ashamed of the instruction given in that department in this country, deficient as it may be. As a text-book, this is worse than nothing at all; for it will fill the mind of the student with inaccurate facts, and still more inaccurate fancies.

**Three Centuries of English Literature.* By Charles Duke Yonge, Regius Professor of Modern History and English Literature in Queen's College, Belfast. New York: D. Appleton & Co.

Kate Beaumont.*—Kate Beaumont impresses us as being far the best of Mr. De Forest's novels, and as marking a steady increase in power and finish of production on the part of that writer. The characters are clearer drawn, and the incidents more interesting in their nature than has yet been the case in any of his previous works. In the objection frequently brought against this tale that there is too much of blood and fighting to be altogether agreeable, we can see no real force. It was, unquestionably, the writer's intention to depict a state of society once existing in the South, though now with its feelings and traditions all swept away by the civil war. It cannot be justly said that the description is untrue to nature, or that it interferes at all with the progress of the story. All the subordinate incidents bear directly on the main narration; the account of the love of Frank McAlister and Kate Beaumont. They all affect it; they all tend directly to bring about the result. This certainly seems to us one of the best and most entertaining tales of fiction that have been for a long time produced in the English tongue; and is, compared with his previous works, so decided evidence of increase of skill and power, that it satisfies us that Mr. De Forest is only in the beginning of his career of success, if he husbands his resources well, and bestows as much care upon the minor details of his pictures as he exhibits in portraying the main outlines. We cordially commend the work to our readers with the assurance that all will find themselves amply repaid, not only by the incidents of the story as a story, but by the more vivid conception they will gain of southern feelings and ideas as they existed before the war.

**Kate Beaumont.* By J. W. De Forest. Boston: J. R. Osgood & Co.

Christ in Modern Life.*—These discourses of Mr. Brooke—Christ in modern thought—are the productions of a highly cultivated spirit, intellectually and religiously. There is a familiarity with the most advanced philosophic thought; and evident sympathy with some of its freest speculations. The piety which is evinced is warm and tender, the characteristics of love and trust predominating over those of reverence and awe. The central truth of Christianity, the incarnation of the Godhead in Jesus—the union of God with man, and of man with God, realised and made manifest in Christ—is firmly held, and is richly and beautifully unfolded. In this great truth are involved the three ideas original to Christianity and characteristic of it, the Fatherhood of God, the progress of the whole race of man towards final good, and the brotherhood of all men. A kindly feeling is expressed towards dissent and unbelief even. False religions, erroneous faiths, erratic sects, are regarded, indeed, as the fragments of the one body of religious truth and of true saintship, of which Christ is the head. Theism and Unitarianism are not to be condemned and reprobated by the Christian believer; they contain, with their errors and defects, parts, small parts perhaps, of the one true doctrine fully set forth in Christ. Positivism and physicism have their portions of truth. The broken fragments should be gathered up, brought together, and reunited under Christ the common head. The theology of the discourses is broad, perhaps broad enough for the broadest.

While there is much that is excellent, much that is able, there is yet somewhat to note as faulty and even weak. There seems to be with the highest notions of the Christ of the evangelists, too low esteem for many of the particular teachings of the apostles, and it seems to us even, for some of the particular teachings of Christ himself. The rationalism of Germany, and the gross physicism of his own country, seem to have disabled him from accepting the clear teachings of the scriptures—from yielding to their express testimony. Speculation seems to sway its scepter over faith in accredited revelation. To pass over other, perhaps, more radical errors, as we esteem them, we will justify our criticism simply in Mr Brooke's doctrine of prayer as presented in sermons x. and xi. This doctrine is thus stated:—"The unchangeability of God as Lord of the physical world is expressed in modern science by the law of the conservation of force; and that law denies the power of prayer to alter any natural sequence,"—(p. 133). To pray for rain in a drought is, therefore, to ask one of

**Christ in Modern Life.* Sermons preached in St. James's Chapel, York Street, St. James's Square, London, by the Rev. Stopford A. Brooke, M.A., Honorary Chaplain-in-ordinary to the Queen. New York, D. Appleton & Co., 1872. pp. viii., 408.

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two things — either that God would work a miracle for us, or that he would change all the natural phenomena which have existed on the globe from the beginning of the creation till now. God may work a miracle at the voice of prayer, if it were his will, Mr. Brooke admits, for all he knows; but it would make him miserable to think that it were so. To ask God to work a miracle, is to ask him to violate the established order of his rule; and to suppose he could alter in the slightest this established sequence, within the sphere of his own laws, is to deny the great law of the conservation of force.

Mr. Brooke believes most fully in miracles wrought for some great spiritual end; believes that miracles have been wrought. He seems never to have asked himself what became of the inviolable law of the conservation of force every time that Christ or any one of his apostles performed a miracle. Was no sequence changed then? and did that change involve no rearrangement into a new combination of phenomena as from the beginning?

Mr. Brooke believes in prayer that seeks change of purpose, a change in the sequence of spiritual phenomena. "God," he says, "is the source of all thought in the brain, of all true intentions in imagination and spirit, as he is the source of all force in nature." The influence of God's thought upon man's thought he believes to be unbounded; and in this realm he believes prayer is of avail. We ought, accordingly, to pray in a plague of rain, not at all that the rain may cease, but that farmers may be inspired to make the best of their opportunities, and chemists to invent new modes of agriculture, so that the evils of excessive rain may be mitigated.

Yet is there not as much ground to believe in the prevalence of order in the spiritual world as in the natural? And must not that order be violated equally if prayer be answered?

Mr. Brooke believes in a personal free will in man as in God; he believes in the power of man in this freedom to change the direction of force in the physical world. We can change, accordingly, the sequence of physical events; only such change cannot change the quantity of force in the world. Man can pro tect his tender plants, to a certain extent, from being drowned out in a flood of rain. Cannot infinite wisdom and power so change the direction of that force which is bringing a deluge upon a certain tract of land as to save the harvests of that land, and do this without disturbing the great law of the conservation of force? Mr. Brooke forbids us to pray God to stop the spread of cholera, because that implies a change of sequence which the conservation of force forbids; but he urges us to pray God to inspire our physicians with knowledge and skill to prescribe proper medicines and treatment, and thus stop the disease. What man can do, may not the Almighty do without violating his own law?

To take another view. Mr. Brooke holds that God is the common source of all thought and all force. He maintains that God has subjected the latter to undeviating laws; one of which is known as the conservation of force. Under this law, an infinite number of phenomena are occurring every day—each equally subject to its control. A meteoric body comes near the earth's path. The conditions under which force acts are furnished; the meteor moves to the earth. Is it within the compass of infinite wisdom and power to give efficacy to the action of gravitating force, whenever and wherever, in all time and in all space, certain physical conditions are furnished; and altogether beyond it to give like efficacy to force when certain moral conditions are furnished? How is Mr. Brooke to prove that while change of sequence or a change of physical conditions is no violation of divine order, such a change of sequence or a change of moral conditions is a violation of that order so gross that inspired testimony which seems to inculcate such a notion must be rejected?

There is one argument of Mr. Brooke against prayer for any change in physical events set forth with some parade of confidence, which seems to us too weak to be characterised even as possible. It is that "natural laws would then be at the mercy of every religious man," and then "we could not be certain of the sun rising at the proper time!" His notion of prayer is certainly a very singular one. Yet he does not seem to dream that this argument invalidates at all his doctrine of the efficacy of prayer in the spiritual world.

This whole presentation of the doctrine of prayer, which is but the echo of Tyndall's extreme physicism, seems to us to be strangely weak and narrow, we hardly know how to reconcile the belief of such a doctrine with a hearty faith in the clear teachings of the Scriptures, the New Testament as well as the old, the gospels as well as the epistles, and the words of Jesus himself as well as of his apostles. This strange fact only shows with what power the prevalent physicism of England has grasped the best minds of the country. English thought is predominently in natural science; the study of mind is neglected or derided. The speculations of leading men in the realm of spiritual ideas are consequently vitiated, distorted, we had almost said derationalized, and, therefore, are untrustworthy. To use Mr. Brooke's expressive words, their peculiar habit of mind has become abnormally developed. "They are like men who should sit all their life in a chair and exercise their arms violently. Their arms become immensely strong, their legs so feeble that they cannot walk. One would not be surprised to hear these people say: 'On the whole, as a body, we have given up any belief in walking being either pleasant or intended for the human race.' The answer is: 'You are no judge till you have recovered the use of your legs."

COLLEGE RECORD.

Center College, (Danville, Ky.)—At the next commencement of this old Institution the President elect., Dr. O. Beatty, will be inaugurated, and the new college building dedicated. The citizens of Danville propose make merry at that time, and so want all the alumni of the Institution now living to be present. The first graduates of the college are dead—died old men full of honors. But there are scattered over the South and West hundreds of eminent, intelligent, and useful men, who received their diplomas from Center College, and these are cordially invited to meet in Danville, June 28. Speeches and songs and good eating will be the order of the day. Invitations will be sent to all whose place of residence is known, but all are wanted and all are invited, and all will be given a Danville welcome.

Robert College, (Near Constantinople, Turkey.)—A large and enthusiastic meeting was held in Tremont Temple, Boston, last Sunday evening, in behalf of Robert College. The Hon. Alexander H. Rice, presided, and speeches were made by Dr. Hamlin, President of the Institution; Rev. Dr. Peabody, of Harvard College; Rev. James Freeman Clarke, D.D.; Deacon Emory Farnsworth, and Hon. Emory Washburn. Letters were also read from Rev. Dr. E. H. Webb, and from Professor Edward North, of Hamilton College, who has just arrived from the Bosphorus. In this letter were some interesting statements relative to the college. The senior class of thirteen students began their education in the rudiments of the English language only five years ago. And yet to-day they express themselves on the most abstruse subjects in the purest English, and evidently do their thinking in the same. He asserted that better recitations than were made by these young men could not be made by thirteen students picked from the senior class of any American college. He especially indorsed the ability and excellence of the faculty of instruction, in which, eight nationalities and six religions are represented.

Boston Theological Seminary, (Boston, Mass.)—The annual report of the school of theology of the Boston University, with a sketch of the origin and history of the institution, has just been issued, from which it appears that there are at present 94 students in the institution, 17 of whom will finish their term the current year. They represent sixteen different States, British America and Great Britain being represented by six. The students graduate from fifteen different colleges. The report includes everything pertaining to the admission, instruction, rooming, boarding, graduation of students and points out the advantages occurring from a connection with the seminary, where earnest and aspiring young men cannot fail to catch inspiration and acquire knowledge, from the fact that they have opportunity to sit at the feet of honored delegates from foreign churches—a Newman Hall, a Punshon or a Spurgeon,—and can also attend upon the debates of the Boston preacher's meeting, thus acquainting themselves with many of the leading spirits of New England Methodism and with all the live issues of the day, as connected with their future life-work in the church. The expenses of the student are reduced to the lowest possible point, several hundred dollars having been appropriated to them during the past year by the various conference education societies. The library of the school contains about 5,000 volumes. The review of the third of a century during which the institution has been in existence is a very interesting appendix to the report. It sums up the actual or proffered facilities of the school for the work of missionary instruction and training at the present time, concluding with the statement that "no institution exclusively devoted to the training of missionaries ever offered, it is believed, a greater combination of advantages." Regret is expressed at the fact that the archives do not furnish the names of the students or even of the graduates of the Newbury Biblical Institute, but from the information in the possession of the seminary it appears that the classes have averaged about twenty a year, 303 out of the 572 men educated coming from the State of New York.—*Boston Advertiser.*

Yale College, (New Haven, Conn.) — The Spring term, the last of the college year, began last Thursday morning. But little, however, has happened as yet worthy of being chronicled. The subject of the Alumni members of the Corporation continues to attract attention, and as the time for the close of nominations draws near, nominations begin to come in and tickets are plenty. The following are the names of the 20 persons who received at the late meeting of the Yale Alumni in New York the highest number of votes for the office of Fellow of the Corporation. It will be remembered that from these twenty the New York Alumni were to make up their tickets:—Wm. A. Buckingham, Calvin G. Child, T. M. Clark, Wm. M. Evarts, Dwight Foster, A. Q. Keasbey, Frank E. Kernochan, Jared Linsley, Wm. Walter Phelps, Edwards Pierrepont, E. P. Rogers, Joseph E. Sheffield, Alex. H. Stevens, Wm. G. Sumner, Alphonzo Taft, Charles Tracy, Joseph B. Varnum, Wm. C. Whitney, Lewis B. Woodruff, Mason Young. It is understood that Joseph B. Varnum has withdrawn his name from the contest. A graduate in Brooklyn, who signed himself "Alumnus and Friend of Yale" sends us the following ticket:—Wm. A. Buckingham, Edwards Pierrpont, Dwight Foster, A. Q. Keasbey, Rev. T. M. Clark, and Mason Young. The nominations, it will be remembered must all be in by May first. We hope to announce next week the names of the candidates.

In accordance with previous announcement Prof. Harris sailed for Europe last Saturday. On Thursdayevening before his departure the middle class in the Theological Seminary went in a body to his residence to bid him good bye and a successful voyage and return. During their call a very fine combination glass was presented to the Professor in behalf of the class. Mr. W. E. Safford made the presentation speech, and in reply Prof.

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Harris made some very appropriate and happy remarks. The glass is provided with three sets of lenses so that it may be used as a marine, field or opera glass. Its cost was $25.00. Professor Harris returns in time to commence his duties at the beginning of the next collegiate year in September.

Professor Wier, begins Monday evening, April 29th, in the Art Gallery, a course of six lectures on "The Principles and Means of Art." They are to be given every Monday evening. The tickets for the course which may be obtained at the door are $2.00, and single admission 50 cts. The proceeds of the course are to be devoted to the objects of the school.

The studies of the term are as follows: the Seniors will have instruction from the President in Schwegler's History of Philosophy, from Prof. Dana in Geology, from Prof. Hadley in International Law, and from Prof. Wheeler in De Tocqueville.

The Juniors will have Prof. Loomis in Astronomy, (the first and second divisions using the Treatise, and the third the Elements), Prof. Coe in the German Reader, Tutor Thacher in Jevon's Logic, and Prof. Packard in Greek (optional with German).

The Sophomores have Tutor Beckwith in Theocritus, Prof. Northrop in Rhetoric, Prof. Wright in Pliny, and Tutor Heaton in Navigation and Spherics.

The Freshmen have Prof. Richards in Geometry, Mr. Day in Horace and Mr. Hooker in Herodotus.

Arrangements in regard to voluntary afternoon service upon Sunday, have not yet been perfected.

The *Yale Courant* says we are happy to hear that Prof. Packard is blessed with an infant daughter.

Le Figaro and Charivari are acceptable additions to the Reading Room.

YALE PERSONALS.

'28, FOSTER.—Died at Washington Heights, Ill., April 1st, 1872, Rev. Samuel Foster. Mr. Foster was born in Hartland, Conn., November 24th, 1799. He studied Theology in the Yale Theological Seminary and was licensed in the Fall of 1830, by the Hartford Association. He married in May, 1831, Miss Lydia Coudrey, of Hartland. Having been commissioned by the American Home Missionary Society, he left for Illinois in a buggy, Sept. 5th, 1832, and arrived at Springfield just thirty traveling days from the time of starting, having traveled over 1,200 miles. He labored in different places in this State as missionary and as teacher, forming churches and establishing schools, with great devotion and great success until his death.

'47, BROWN.—A writer in the *World* of recent date thus speaks of the political prospects of Gov. B. Gratz Brown, at the Cincinnati Convention. "With no assailable point in a political record so full of attractive features, Gratz Brown has ability of a very high order, and unquestioned purity of character. If nominated he might not poll as many Republican votes as Senator Trumbull, because at the East he is less known, and because he has already been indentified with an independent movement. At the outset his name would meet less favor. But with every week of the campaign the brilliancy of his career and the chivalric courage of his character would win him stronger friends, and before the campaign closed, in my deliberate belief, he would be found stronger than any other man the Liberals can nominate. With him to lead the assault the intrenchments of Radicalism would be carried with a rush, and a revolution like that of 1840 would amaze all the machine politicians."

'49, MILES.—Rev. James B. Miles, of Charlestown, Mass., now Secretary of the American Peace Society, has received a call to the pastorate of the Calvinist church, Fitchburg, Mass.

'52 ROOT.—Rev. N. W. T. Root, of the Episcopal Church is Chaplain of the Ninth Regiment of the Rhode Island Militia.

'53, LEWIS.—Charlton T. Lewis has retired from the management of the *Evening Post*. He is succeeded by Parke Godwin.

'55, PALMER.—Rev. Charles R. Palmer, pastor of the Tabernacle Congregational church, Salem, Mass., has received a call to the pastorate of the 1st Congregational church Bridgeport.

61, PECK.—Tracy Peck, now Professor of Latin at Cornell University, has an article in the current number of the *Era* on "Quæstiunculæ Subsecivæ." The object of the article is to illustrate the obligations of the Latin element in our language to agriculture.

'63, MCNEILLE.—Rev. R. G. S. McNeille, of this city, accepts the call to the pastorate of the Porter Congregational church, North Bridgewater, Mass.

'64, WHITIN.—Married in New York on Tuesday, April 16th, 1872, by Rev. Wm. H. Platt of Louisville, Ky., Lewis F. Whitin, to Lucy A., daughter of the late Dr. I. Morgan of Selma, Alabama.

'67, BISHOP.—W. H. Bishop, is at present engaged in making sketches of residences and grounds, in Whiteside County, Ill., to be published in the Fall, in connection with Warner & Beers survey of that County. He thinks of treating Jefferson County in the same way. His Post-Office address is Morrison, Whiteside, Co. Ill.

'69, LEE.—W. H. L. Lee is managing clerk in the office of Lee & Atwood, 20 Nassau street, New York City. He graduated at the New York Law School last May and has passed six months abroad.

'69, ROBESON.—S. H. B. Robeson, formerly of the Class of '70, was recently married and is farming at Marcus, Iowa.

'69, WILDER.—E. P. Wilder has been chosen one of the delegates from New York City to the Cincinnati Convention. He goes more particularly in the interest of the Free Trade League.

'70, S.S.S. BRANDEGEE.—T. S. Brandegee has been elected civil engineer of Cañon city, Colorado.

'70, STEDMAN.—W. P. Stedman who left the Class of '70 very early in Freshman year and was abroad for some time after, is now in a bank in St. Paul, Minn.

'70.—The N. Y., residents of this class were entertained Friday evening, April 19th, by R. W. DeForest at his home. Twenty-one were present Allis, Betts, Coy, Crane, Curran, DeForest, Dodge, Gould, Grinnell, Jackson, Jenkins, Kendall, Lord, McCutchen, Miller, Perkins, J. H. Perry, Randall, Riley, Shattuck, and Tilney. It was considered the pleasantest of all the gatherings of the "N. Y., Club of '70"—an organization the oldest of its kind, having been started early in freshman year. Those present will not soon forget this latest reunion, nor the hearty hospitality of their host.

GLEANINGS.

PERSONALS.

— President White's report on Co-Education to the Trustees of Cornell University, is being printed.

— Professor Thacher of Iowa, was to address the rhetorical society of the Chicago Theological Seminary on the 24th of April.

— Prof. William B. Rising, recently elected assistant to the Chair of Chemistry, in the University of California, is still in Germany.

— Stephen A. Walker, Esq., of New York city, will deliver the annual address before the associated alumni of Middlebury College on their anniversary in August.

A Montevideo letter states that Professor Agassiz and several of his party were arrested while filling their pockets with pieces of rock, and taken to the guard house, but were soon released.

— President J. W. Healy's position at the head of Straight University, New Orleans, is supplied during his absence in Europe, by Rev. S. S. Ashley, lately superintendent of the public schools in North Carolina.

— The trustees of Tufts college have granted to President Miner leave of absence for the remainder of the college year. During the absence of the President the duties will devolve upon the secretary of the faculty, Prof. Shipman.

— Miss Anna Preston, M.D., one of the first graduates of the Woman's Medical College of Philadelphia, and for several years past Professor of Physiology and Hygiene in that Institution, died on Friday of last week aged fifty-eight.

President Paul A. Chadbourne, who has been elected the successor of Dr. Hopkins, is a graduate of Williams, of the class of 1848; he studied theology in the East Windsor Seminary; in 1853 became Professor in Williams; in 1858 in Bowdoin, and subsequently President of Madison University.

— Prof. Peters of the Litchfield Observatory at Hamilton College, N. Y., has discovered another planet. On the morning of April 17th, it was in eleven hours fifty-six minutes and fifty-two seconds of right ascension, and in four degrees and forty-five minutes of south declination with a retrograde motion of thirty-nine seconds toward the north three minutes per day. Its brightness is that of a star between eleventh and twelfth magnitude.

COLLEGE.

— Trinity College has received $10,000 by bequest within three months.

— A revival of religion is in progress in the Agricultural College of Pennsylvania.

— It is said, that the late Quincy Tufts, has left the bulk of his large fortune to Harvard College, subject to life interests of relatives.

— At Cornell College, Iowa, the attendance this year is about 350. The endowment fund of the college has recently been advanced to $95,000.

— It is said that the beautiful daughter of General Thomas, U. S. A., is the *fiancée* of Mr. Parker, one of the American Students at the Berlin University.

— The running expenses of Shurtleff College, in Illinois, are $13,600, while the income is only $8,824. Its friends are trying to raise an endowment of $150,000.

— The Seniors and Juniors in Wisconsin State University at Madison, are studying Anglo Saxon. At the same Institutions the Senior graduating orators are to be limited to four minutes each.

— The small pox scare at Hamilton College is said not to be so bad as at first reported. Only one case had shown itself, but the students who preferred to go home were excused. The college does not stop however.

— The Rev. Mr. Avery, long known as a successful evangelist is conducting a series of religious meetings in Hillsdale College church. The result thus far, is about thirty conversions and still the work is progressing.

— The chair of Physics and Mechanics in the Lehigh University at South Bethlehem, Penn., is expected to be vacant after Commencement, by the retirement of Professor Lorain, a major in the army, who expects to return to military duty.

— Three hundred and eighty-five acres of land at Dyersville, Iowa, have been secured for the location of a German Theological Seminary. It is expected that the institution will be opened next Autumn.

— W. W. Corcoran, Esq., of Washington, D. C., has purchased the "Howard Library," of thirty-six hundred volumes, and presented it to the Washington and Lee University. It is the most valuable classical collection in the State of Virginia.

— The Rev. George Constantine of Amherst College, class of 1859, now a missionary in Greece, has lately sent to the college a monumental slab which he thinks must be one of the oldest in the country, even as old as the stone lions at Mycenæ, heretofore supposed to be the oldest.

— The Presbyterian church have agreed to endow the chair of Mathematics in Howard University, Washington, D. C., and Rev. Lorenzo Westcott, late of Lincoln University, has been appointed to fill it, and has entered upon his duties. Dr. W. C. Tilden, of the Georgetown College, has been called to the chair of Chemistry.

— The editor of the Philadelphia *Press* has knowledge of a young gentleman eminently qualified for a position in one of our colleges, universities, academies, or high schools. He would make an acceptable professor of *belles-lettres*, history, and literature, and is able both to teach and deliver lectures with something of rhetorical style and graphic power. He is also familiar with the French and Spanish languages, both as writer and speaker. A note to the editor will receive attention.

— The first step toward the permanent closing or removal of the Danville Theological Seminary has been taken. Ebenezer Presbytery has resolved that it thinks the institution too expensive a one, and instructs its delegates to the General Assembly to ask that body to close it for the present, and lend $26,000 of the endowment fund to Center College for the purpose of procuring a new Professor in the latter institution. To remove the institution it is said would be to sacrifice near $40,000 of the endowment fund.

HERNIA.—It is now demonstrated that rupture can be surely cured without suffering. *Elastic Trusses* are superseding all others. We advise all, before metalbuying trusses or supporters, to send for a descriptive circular to the ELASTIC TRUSS COMPANY, No. 683 Broadway New York. 107

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HARVARD UNIVERSITY, CAMBRIDGE, MASS.

1872-73.

HARVARD COLLEGE. A four years' course for the degree of Bachelor of Arts. Studies are elective in the main after the first year. There will be more than seventy elective courses in 1872-3, in addition to the studies of the first year and the other courses required of all students. If any student, or his parents, prefer the assorted studies which make up the common curriculum of American Colleges, he has only to select those subjects. . . . There are *extra* voluntary examinations in the Classics at admission; *honors* in the Classics and in Mathematics at the end of the second year; and *honors* at graduation in the Classics, the Modern Languages, Philosophy, History, Mathematics, Physics and Natural History. . . . The College respects and does not seek to influence the religious convictions of its students. . . . The annual expenses of a student are not necessarily any larger than at many other colleges. Many students pay *all* their expenses with from $500 to $600 a year. There are ninety-three Scholarships, of the average annual value of about $250 apiece, besides beneficiary funds, a loan fund, monitorships, and prizes for English writing, elocution, and reading.

DIVINITY SCHOOL. A three years' course for the degree of Bachelor of Divinity. There are no tests concerning opinion or belief applicable to either teachers or students. There are four resident professors, two lecturers, two instructors, and a libraian. The School library is large and valuable. Liberal pecuniary aid is given to those who need it.

LAW SCHOOL. A two years' course for the degree of Bachelor of Laws. The subjects of examination for the degree are Real Property, Contracts, Torts, Criminal Law and Procedure, Civil Procedure at Common Law, Evidence, and Equity. Instruction is given in all these subjects, and in sundry others, every year. The Library (16,000 vols.) has no rival among libraries belonging to Law Schools. There are eight scholarships of $100 each.

MEDICAL SCHOOL. A three years' progressive course of study for the degree of Doctor of Medicine. *The attention of all persons interested in medical education is invited to the new organization and plan of study of this school.* Full information may be obtained by applying to Dr. C. Ellis, Dean of the Medical Faculty, 114 Boylston Street, Boston.

DENTAL SCHOOL. This school is in one sense a branch of the Medical School: but it has three distinct professorships of dental subjects, maintains separate laboratories and an infirmary for dental operations, and gives the separate degree of Doctor of Dental Medicine. The instruction covers the whole academic year; but there is a winter session (Sept. 26 to Feb. 10) and a summer session (Feb. 17 to June 25).

LAWRENCE SCIENTIFIC SCHOOL. This school has been entirely reorganized, and now offers very systematic and complete courses of study in all departments of science, pure and applied. 1. A four years' course of study in CIVIL AND TOPOGRAPHICAL ENGINEERING for the degree of Civil Engineer. 2. A three years' course in PRACTICAL AND THEORETICAL CHEMISTRY for the degree of Bachelor of Science. 3. A three years' course in NATURAL HISTORY for the degree of Bachelor of Science. 4. A three years' course in MATHEMATICS, PHYSICS, AND ASTRONOMY for the degree of Bachelor of Science.

The school also offers to *teachers*, or persons who mean to become *teachers*, a one year's course of study in the elements of Natural History, Chemistry, and Physics, which is intended to qualify teachers to teach science by the modern methods of experiment and observation.

Lastly, the school offers thorough instruction for advaneed students in Physics, Chemistry, Zoölogy, Geology, Botany, and Mathematics.

Students in the Scientific School may take rooms in the college buildings; they have all the general advantages of connection with the University. There are four scholarships of $150 each.

MINING SCHOOL. A four years' course of study for the degree of Mining Engineer. The first three years of the course are identical with the first three years of the Engineering Course in the Scientific School. The fourth year is devoted to Economic Geology, Exploitation of Mines, Metallurgy, and Assaying.

BUSSEY INSTITUTION. The School of Agriculture and Horticulture recently established in execution of the will of Benjamin Bussey, gives thorough instruction in Agriculture, Useful and Ornamental Gardening, and Stock Raising. In order to give the student a sound basis for a thorough knowledge of these Arts, the School supplies instruction in Physical Geography, Meteorology, and the elements of Geology, in Chemistry and Physics, in the elements of Botany, Zoölogy, and Entomology, in Levelling and Road-building, and in French and German.

This School is intended for the following classes of persons: 1. Young men who intend to become practical farmers, gardeners, florists, or landscape gardeners. 2. Young men who will naturally be called upon to manage large estates—such as the sons of large farmers and of city men who own country-places. 3. Young men of character, good judgement, and native force who have neither taste nor aptitude for literary studies, but who, being fond of country life and observant of natural objects, would make, when thoroughly trained, good stewards or overseers of gentlemen's estates. 4. Teachers, or young men preparing to be teachers, who expect to be called upon to teach some of the subjects taught in this School. 5. Persons who wish to familiarize themselves with some special branch of agriculture, horticulture, or applied zoölogy.

The regular course of study, to be pursued by candidates for a degree, will fill three years. The instruction of the first year's course is given at the Lawrence Scientific School, in Cambridge; that of the second and third years' courses at the Bussey Institution, which is situated near the village of Jamaica Plain, about five miles southwest of Boston. The teachings of the school are illustrated by the rich scientific collections of the University, and by a botanic garden, a large and profitable farm greenhouses, propagating houses, and field experiments. The single object of the School is to promote and diffuse a thorough knowledge of Agriculture and Horticulture.

Full information about this School may be obtained by addressing Prof. E. H. STORER, Jamaica Plain, Mass.

THE DEGREES OF MASTER OF ARTS, DOCTOR OF PHILOSOPHY, AND DOCTOR OF SCIENCE. After commencement, 1872, the ordinary degree of Master of Arts will be conferred only upon examination. The degree of Doctor of Philosophy and Doctor of Science have recently been established. They are given on examination. *All three degrees are open to graduates of other colleges*, as well as to graduates in Arts or Science of this University; but certain additional examinations may be required of Bachelors of Arts, Science, or Philosophy of other institutions. . . . Candidates for the Degree of Master of Arts must pursue some course of liberal study at the University for at least one year after taking the Bachelor's degree; candidates for the Degree of Doctor of Philosophy must study at the University at least two years after taking the degree of Bachelor of Arts; candidates for the degree of Doctor of Science must pursue for three years a course of scientific study embracing at least two subjects, but only two of these years need be spent at this University. In special cases the requisition of residence at the University may be remitted to Bachelors of Arts or Science of Harvard University who are candidates for higher degrees.

For information concerning these degrees address Prof. J. M. PIERCE, Secretary Academic Council, Cambridge.

The numerous elective courses of instruction in Harvard College have recently been opened to Bachelors of Arts of Harvard College *and of other colleges*. An undergraduate of Harvard College, cannot, at the best, pursue more than fifteen of these courses before taking the Bachelor's degree. The seventy elective courses for 1872-73 therefore offer a wide choice of new studies to Bachelors of Arts of Harvard College, as well as of other institutions. . . . . hree courses of instruction in the Divinity School will be open to Bachelors of Arts, viz., those on Ecclesiastical History, New Testament Criticism, and the Frst hree Centuries of Christianity. . . . Instruction in Sanscrit, Icelandic, and Gothic is offered to competent students. . . . Courses of University Lectures will be given during 1872-73 on Jurisprudence, History, and some topics in Social Science. These Lectures, taken in connection with the College courses on Political Economy and Roman Law and certain of the College courses on History, will provide a full year's work in Political Science. . . . There will be courses of University Lectures on some Art subjects and on some special subjects in Science, as heretofore. . . . Advanced students will be received into the Botanical Laboratory (PROF. GRAY), the Chemical Laboratory (PROF. COOKE), the Physical Laboratory (PROF. GIBBS), the Physical Laboratory (Asst.-Profs. TROWBRIDGE and HILL), the Laboratory of Agricultural Chemistry (PROF. STORER), the Physiological Laboratory (Asst.-Prof. BOWDITCH), and into the Museum of Comparative Zoölogy (Profs. AGASSIZ, HAGEN, and SHALER). There is field-teaching in Geology and Botany both in term-time and vacation.

The Academic Year begins in all departments of the University on the Thursday following the last Wednesday in September, and ends on the last Wednesday in June. There is a recess from Dec. 24 to Jan. 6 inclusive.

Examinations for admission to Harvard College will be held this year, on June 27, 28, 29, and Sept. 26, 27 28, beginning at 8 A. M. of June 27 and Sept. 26. Examinations for admission to those departments of the Scientific and Mining Schools and of the Bussey Institution for which there are admission examinations will be held on June 27 and Sept. 26, beginning at 9 A. M.

For Catalogues (second edition, 1871-72), Examination-papers, or Circulars, address James W. Harris, Secretary, Cambridge, Mass. 1

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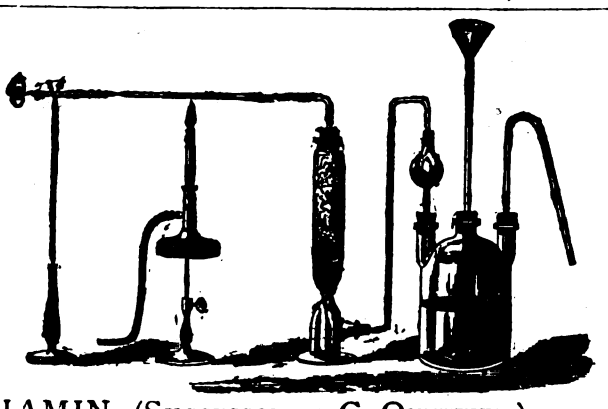

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, MAY 4, 1872. NUMBER 18.

HOW SHALL YALE COLLEGE BE RADICALIZED?

A SUGGESTION IN REGARD TO THE CHARACTER OF THE ALUMNI MEMBERS OF THE CORPORATION.

BY GEORGE M. BEARD M.D.

Among a very considerable body of the alumni of Yale—I will not say a majority—a body somewhat powerful in numbers and in prospective if not actual influence, there is a suspicion amounting at times, and in individual cases, to a positive conviction, that the crying need of the college is an infusion of the radical element in its management. Now this idea may be very false, or it may be very true; it may be the passionate shriek of shallow sore heads, or the slowly matured belief of original and able minds; it may be but a momentary breeze that shall soon die away and be felt no more, or it may be the first mutterings of a rising storm which, with steadily accumulating force, is to sweep all before it,—these are questions that need not be argued here. The broad fact here to be recognized is that such a feeling does exist; that it is wide spread, that it is not confined to younger Yale, although, for reasons that I have previously given through the colums of the COURANT, it takes its root in the early rather than in the latter decades of life.

In order to avoid the charge of vagueness it may be well for me to define what I mean by conservatism and radicalism.

A conservative is one that takes his inspiration from the past.

A radical is one that takes his inspiration from the future.

In matters of education the conservative looks to the old as the radical looks to the new education. The conservative feels that what is old is presumptively true; to the radical, age is a presumptive of partial if not absolute error. A conservative member of a corporation will declare himself abstractly in favor of educational progress—for very few in these times of ours are willing to say that they prefer barbarism to civilization—will reverence above all things safety; will magnify practical difficulties in the way of specific reform, and in matters of doubt will seek the advice of the wise men of the past rather than of the future. A radical member of a corporation will seek out special reforms and concentrate his energies on their accomplishment; will prefer activity to mere harmlessness, and regard timidity as the one unpardonable sin; will feel that the greater the obstacles to advance the greater must be the resistance; and in a crisis will ask counsel of the wise men of the future as well as of the past. A college may progress either under a conservative or radical administration; under radical, it will march in front, under conservative, in the rear.

Now there is danger that the opportunity of inoculating the Yale Corporation with radicalism which is to be offered at the coming election of the six alumni members will be lost through the indifference or neglect or bad management of the alumni themselves. It is so easy to pounce upon the eminent names that occur to us and write them down as candidates and so difficult to scan the whole firmament and out of five thousand stars of various magnitudes to select those and only those which will best represent our sentiments in regard to the higher education,that very many will give up in despair and surrender their franchise. The election of the alumni members of the Corporation is a kind of political matter, and there is great danger, that, like other political matters in this country, it may fall into the hands of those who have nothing else to do, who make politics a trade, and may be utterly ignored by those whose professional or business success and general reputation encourage the hope that they will make useful members of the Corporation. This political difficulty, added to the necessity of restricting the choice to those who are not too far from New Haven, suggests the doubt whether the radical sentiment among the alumni will be fairly represented in the coming election. For why, I ask, did the alumni desire to have a voice in the election of members of the Corporation? Why were there heard so many expressions of regret and despair when a committee reported negatively to the project? Why so much rejoicing when the Legislature gave the alumni the privilege of choice in the election of some of the members of the Corporation just after Dr. Bacon had declared that no power short of the Supreme Court of the United States could accomplish such a result? The reason was this, that the radical alumni felt that now for the first time in one hundred and seventy years they could make their influence directly felt in the management of the college. I do not mean by this that all the alumni of Yale are radicals. By birth, by organization, by education at home and in college, by profession and by social affiliations the majority of the alumni of Yale are conservative; but it was the radical element that called for the change, and, consciously or unconsciously, it was in deference to the radicals among the alumni that the change was made.

No living organisms in nature are more self-perpetuating than close corporations. As in certain parasites, the loss of each joint is at once replaced by another just like it, so the conservatism, or radicalism, mediocrity or superiority of a corporate body is constantly maintained in spite of death and resignation. If now it were desired only to perpetuate in the Corporation the same type of character that has always been dominant there, then surely it would be far better and far easier to leave the selection to the present members of the Corporation. They are conscientious, true men, and would fill the vacancies with men like themselves. But the radical alumni feel that it is not enough that the members to be elected should be conscientious and true, although it is to be hoped that only conscientious and true men will be elected; it is not enough that they be loyal Yalensians and earnest friends of the college and enthusiastic in the cause of education, although loyalty and earnestness and enthusiasm are essential qualities in such a position; the election cannot fulfill the purpose for which it was ordered unless it results in the *choice of a certain proportion of members who have more or less radical views on the subject of education.*

It need not be feared that discord will arise from the union of radicals and conservatives in the Corporation; in our times it is shown everywhere that men of widely diverging opinions can work together in harmony for a common purpose; the present faculty of Yale includes some radicals as well as conservatives and they have authoritatively denied the charge that there has been a want of harmony among them.

Radicals do not expect that the changes they demand will all be made at once, they believe they can be made sooner than the conservatives are willing to admit will be feasible and they will keep these changes in constant view and will not rest or weary until they are accomplished facts; they will recognize the necessity of patience as well as of enthusiasm, but theirs will be the patience of action, of aggression, and not of repose.

The notion that the clergy monopolize the conservatism of the Corporation and that this is due to the fact that they are clergymen I have in previous issues of the COURANT shown to be unfounded; there is more of radicalism in the sense I here give to that term among the younger clergy of this country than in any other class. There is a strong desire to make the course at Yale more scientific. I speak from considerable personal experience as well as from comparative observation, when I say that works of science are more read and better appreciated by clergymen than by any other class outside of professed scientists. College corporations have been conservative not so much because the members have been clergymen as because they have been men of advanced age. The reaction against the ministry has driven the alumni to take refuge behind the bar and the bench. Of all sciences law is the least radical; in an age of progress it is the only science that professes to live by precedent. Next to theology, the oldest of the sciences, it has ever been behind all and yet keeps behind; and nearly all its great reforms have been inspired by those who were not great as lawyers or as legislators. John Bright once stated in the House of Commons, that all the modifications of English law in the direction of justice and mercy had been opposed by the Judges. It is possible to find among the younger lawyers as well as among the younger clergy and merchants those who will represent the radical element in the alumni, but to expect that old judges and legal practitioners, overwhelmed with professional and other duties, will be capable of representing the wishes of those who clamored for the change in the method of electing the members of the Corporation, or if so capable, that they will give to the duties of the position, the time, the thought, the patient study, research, and travel that its mixed duties demand, is to expect the impossible.

Three at least of the new members of the Corporation, ought to be *young* men and it would be better if all of them were under forty-five, for the regular members are now and probably will continue to be men in advanced life, and will no doubt sustain their character for conservatism, and be very possibly a healthful check as well as stimulus to the enthusiasm of the new members. In the face of the facts that have been published in this journal, in the face of the examples furnished by Harvard, Cornell and Michigan, I am amazed to find those who desire radical changes in Yale proposing men, who, however eminent in their professions and however loyal to their *Alma Mater*, have, from the radical point of view, no qualifications for the position, and are indeed signally disqualified for it. Judging from the temper of the two meetings of the alumni that have recently been held in New York I should say that the election will be, at the best, a kind of lottery among some of the best known Yalensians, but that the radicals will secure one or two or perhaps three representatives. But New York represents only about one tenth of the alumni, and it is important, that some of these younger nominees, who do not yet bear a national reputation, but who, if they live, will surely achieve it, should be carefully considered by the alumni everywhere before casting their votes.

In conclusion I may say that the duty of all the radical alumni to improve this opportunity to make their influence felt is enforced by the cheering manifestations of radicalism already existing in Yale, under the present administration. In nearly all the departments there are signs of unusual activity—no very rapid or radical innovations, it is true, no eager or startling advances, but active preparation and organization and a pretty general falling into line, that looks as though camp was to be broken and a vigorous campaign entered upon. A fact of great encouragement and one that marks an era in the history of the college is the hearty and enthusiastic manner in which Mr. Beecher's magnificent lectures on preaching were received. This liberal action on the part of the college will itself atone for a score of omissions and commissions, and it appears all the brighter when contrasted with the treatment which Mr. Beecher

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received from the Theological faculty of Princeton.* In view of this action of the Yale faculty, those alumni who have refused to subscribe for the Woolsey fund on account, as they aver, of the conservatism and narrowness of their *alma mater* may perhaps see fit to revise their action, and aid the good work of reform.

The momentous questions whether the course at Yale shall be so enriched and enlarged that it shall no longer be necessary to depend on the outside efforts of the students among themselves for the discipline that the actual world requires; whether it is possible to perfect a curriculum in which to all lovers of study, biennials shall be a pleasure and not a bore; whether the elective or the compulsory, the classical and disciplinary or the scientific and practical system shall prevail; whether the college shall be open to both sexes or to one as heretofore; whether the process of gradual secularization is to continue or to be arrested and at what point,—the answers given to their queries will depend not a little on the result of the coming election; and if with all the stimulus afforded by the growth of the college and all the encouragement that comes from the recent efforts of the present management, the alumni of Yale shall suffer the radical candidates to be defeated, the query may justly arise whether they should not resign a privilege which they have shown themselves unworthy to hold.

*Not long since the students of the theological department at Princeton, having received intimation from Mr. Beecher that he would be willing to lecture for them if invited to do so, called a meeting and appointed a committee requesting the faculty to allow them the privilege of having lectures from Mr. Beecher, and Drs. Cuyler and Adams. The faculty, after consultation, replied that, in their judgment the lectures of the course already provided were sufficient, but that if the students desired they might invite Drs. Cuyler, Adams, *and Hall.* When the twentieth century comes to write the history of civilization in the nineteenth, this deliberate action of the Princeton faculty towards one of the foremost modern radicals and greatest of living preachers, will not unlikely become the text of some important chapter. There is probably no member of the Yale Faculty or Corporation who would publicly boast, that "nothing new" had come out of Yale, as Dr. Hodge boasted of Princeton at his recent centenary; and that too before an audience of intelligent Christian gentlemen.

THE FESTIVALS AND SUPERSTITIONS OF THE OLD NORTHMEN.

BY PROF. PAUL C. SINDING.

The ancient Scandinavians had three religious festivals in the year. The first was celebrated at the winter solstice. The night on which it was observed was called the mother-night, as being that which produced all the rest; this epoch was rendered the more remarkable from the fact that they dated from this point the beginning of the year. Among the old Northern nations the year was computed from one winter solstice to another, as the month was from one new moon to the next. This festival was called Yule, the same name which was anciently given in England to Christmas, and was celebrated in honor of the sun, in order to obtain a propitious year. When Christianity had been introduced, this festival was, as we know, celebrated as the birth-day of our Saviour; but the three Scandinavian nations retained the name Yule, which name is still used. Sacrifices, feastings, nocturnal assemblies, and all the demonstrations of the most dissolute joy were then authorised by the general custom, and they answered in their character to the Roman Bacchanalia. The second festival was instituted in honor of the Earth, which was, in the Greek mythology, considered a goddess. The object of the festival was to request of her fertility and a plenteous harvest, and this festival was fixed at the first quarter of the second moon of the year. This was the principal festival of the Swedes, during which they held their supreme court, called the Althing. The third festival, which seems to have been the most conspicuous, was instituted in honor of Odin, and was celebrated at the beginning of the spring, in order to obtain from him, being the God of Battles happy success in their military and maritime expeditions.

In the infancy of mankind all offerings consisted, as we know, of the fruit of the ground, and of the firstlings of the flock. We read in Genesis, ch. 4th: "In process of time, it came to pass that Cain brought of the ground an offering unto the Lord, and Abel, he also brought of the firstlings of his flock and of the fat thereof." Such were also the offerings which the ancient Scandinavians brought unto their gods and goddesses, such, namely, as husbandmen and shepherds could present. They loaded the altars with the first fruits of their crops, and with the choicest animals, and the blood of the animals was considered appeasing to the anger of the gods. Nevertheless, when they would ask for any favor which they ardently wished for, or would deprecate some public calamity which they feared might happen, the blood of animals was not deemed sufficient. Then they began to shed the blood of men, and this barbarous custom was not entirely abolished till towards the end of the ninth century, when through the efficient instrumentality of Amgarius, called the Apostle of the North, they received the glorious light of the Gospel. The most solemn sacrifices of this kind were those offered at Upsal, in Sweden, every ninth year. Then the king and all the citizens of any distinction were obliged to appear in person, and those who could not come themselves sent their gifts by others. Strangers flocked there in crowds, and none were excluded, except those who had been accused of cowardice. Then they chose among the captives in time of war, and amongst the slaves in time of peace, nine persons, five male and four female, to be sacrificed. The bodies of these unfortunate victims were afterwards suspended in a sacred grove near the temple. Close by Upsal in Sweden was a grove of this sort, called Odin's grove, which is still to be seen, of which every tree and every leaf was regarded as the most sacred thing in the world. And in a great national calamity, if the people believed they had some pretext to impute the cause to the king, they even sacrificed him as the highest prize with which they could buy the divine favor. In this manner, the first king of Vermeland, a province of Sweden, was burnt in honor of Odin, in order to put an end to a great famine The kings, in their turn, did not spare the blood of their subjects, and many of them shed even that of their children. Thus a king of Sweden devoted to Odin the blood of his nine sons, to prevail thereby upon Odin to prolong his life. The ceremony concluded with feastings, at which they drank immoderately, and the kings and chiefs drank healths in honor of the gods. From this came that custom amongst the first Christians in Scandinavia and in the North of Germany, of drinking to the health of our Saviour, the Apostles, and the Saints, a custom which the Church was obliged, although reluctantly, for a long time to tolerate. The licentiousness of these feasts increased to such a pitch as to become entire bacchanalia, where to the sound of noisy music the most immoral pleasures were openly enjoyed.

It was a general belief amongst the ancient Scandinavians that they might easily learn the will, inclinations and desires of their gods and goddesses through the instrumentality of oracles and divinations. And, just as among the ancient Greeks, it was generally thought that the three virgins before mentioned, who watered the celebrated ash tree and dispensed the days and ages of men, delivered out these oracles in the respective temples. The famous Danish historian of the 12th century, Saxo Grammaticus, tells us that it was customary among the Danes to consult the oracles of these three virgins concerning the destiny of children recently born. But oracles were not the only efforts made by the curiosity of the old Scandinavians to penetrate into futurity. They had Diviners both male and female, honored with the name of prophets and prophetesses, and they did the same as Moses says of the pagan nations: "They hearkened under observers of times and under diviners." Some of them were said to have familiar spirits who never left them, and whom they consulted under *the form of* idols; others dragged the ghosts of the departed from their tombs, and forced the dead to tell them what would happen. Poetry was often used for the like absurd purposes, and the Skalds and the Bards, as the poets were called, boasted of a power to disturb the repose of the dead, and to drag them out of their graves by force and certain songs, which they knew how to compose. The belief in this power ascribed to the Skalds and Bards, was so general among the common people that even after the introduction of Christianity the priests were considered as having inherited this power from the Skalds, and to be possessed of a power to charm and to consult with familiar spirits. They were regarded as necromancers, and in consequence carried on amongst the superstitious people a most lucrative business. Nay, even a long time after the introduction of the Lutheran Reformation, necromancy, that is to say, the art of revealing future events by means of a pretended communication with the departed souls, was a power ascribed to the ministers of the Gospel, who were believed to understand the Black Art, as this power was called; and although this imposture was, as an abomination unto the Lord, severely forbidden by the government, the ministers of the Gospel often clandestinely made use thereof, thereby to increase their income.

But the same superstition and ignorance which made the ancient Northern nations believe in the power of the priests, to disturb the repose of the dead, and to drag them out of their graves by force and certain formulas or songs, persuaded them also that some letters or Runic characters consisting of sixteen marks and beginning with the letter, "F.' the origin of which goes back to the remotest antiquity, and which were then used by the few who could write and read, included in them certain mysteries and magical properties. Imposters easily made a credulous people believe that these letters combined after a certain system, were able to work wonders and miracles, and especially to predict future events. There were letters or Runes to procure victory in war, to relieve women in the perils of childbirth, to soften the severity of a cruel master, and to secure fidelty to the connubial bed. Some engraved Runes on their nails to make their sweet-hearts faithful to them: some on the hilt of their swords, to be successful in war, some on the helms of their ships, to avoid tempest and huricane. Such was the gross superstition prevailing in Scandinavia, which was even carried so far, that in sacrificing human victims they aimed at nothing more than to know what was to happen, by the inspection of their entrails, by the effusion of their blood, and by the less or greater degree of velocity with which they sank to the bottom of the water. The same superstition induced them also to lend an attentive ear to the singing of birds which some sorceress or sorceresses boasted of being able to interpret. The ancient history of Scandinavia is full of these surperstitious practices, which continued a long time after the introduction of Christianity, nay, even after the introduction of the Lutheran Reformation. Upon the whole, superstition was so engrafted in the people that even men of extensive learning, whose reason was brought to the greatest perfection and who engaged themselves in the deepest speculations, were more or less superstitious. Tycho Brahe, the celebrated Danish astronomer of the 16th and 17th centuries, was very superstitious, considering certain days in the year pregnant with misfortune. From this circumstance the laboring people in Denmark up to this very day, call such days on which they happen to meet with some unfortunate accident, *Tycho Brahe's Days.* He even carried his superstition so far, that when going out in the morning if his first meeting was with an old hag, he firmly believed that something unfortunate would happen to him before the conclusion of the day.

But this superstition, however deeply engrafted, did not of course blind all the old Scandinavians without exception. History testifies that there were amongst them men wise enough to discover the folly of the re-

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ceived opinions, and courageous enough to ridicule them without reserve. In the history of the Norwegian King, Olaf Trygveson, a warrior did not fear to say, that he placed more confidence in his own strength and in his weapons than in Odin or in Thor. "I have travelled in many places," he says, "I have met with giants and monstrous men; they could never overcome me; thus to this present hour my own strength and courage are the sole objects of my belief." Roll Kraki, king of Denmark in the 6th century after Christ, said one day when one of his companions proposed to offer a sacrifice to Odin, that he feared nothing from that blustering and swaggering spirit, and that he would never reverence him nor make sacrifices to him. Indeed, we see at intervals men endued with a real strength of mind, who not only trampled under foot all such objects of credulity and idle superstition, but who even raised their minds to the invisible Master, the Father of the sun and of all nature. In an Icelandic chronicle a person by the name of Giest says to Garder, his neighbor, who was about to embark for the discovery of America in the year 985 after Christ: "I beseech and conjure Him who made the sun and the stars, to give success to the great undertaking." But still more remarkable are the words Harold Hairfair, the first king of all Norway in the 9th country, when Christianity had not yet found its way to that country: "I swear in the most sacred manner," he says, "that I will never offer sacrifices to any of the gods adored by my people, but to Him only who has formed the world and what I behold in it." Minutely to describe like expressions from many wise men, would only occasion tiresome repetitions. At the end of the 9th century Christianity was introduced into the three Scandinavian countries, Denmark, Norway, and Sweden. The vestiges of the pagan worship were then destroyed, its idols overthrown, its altars demolished and its temples closed. Christianity has since prevailed in Scandinavia, and formed the great bond of social happiness, and the great source of intellectual eminence, which this remote quarter of the globe now so richly enjoys.

PRINCETON THEOLOGICAL SEMINARY.

CELEBRATION OF THE SIXTIETH ANNIVERSARY.—DR. HODGES, SEMI-CENTENNIAL.—INTERESTING EXERCISES.

Tuesday, the twenty-third day of April, 1872, has come and gone, and with it another class has been ushered into the world to preach "Peace and good will to men. The morning trains early began to pour crowds of visitors into the town, and their numbers were greatly augmented by each arrival of the cars. Many of these were students in the College returning after their spring vacation, but the generous offer to provide accommodations for all who would come, brought many an alumnus back to his alma mater.

The exercises of the week were opened on Wednesday, the 17th, by the annual address before the Rel. Con. Society, an organization of the students through which they give money to the various boards of the church. They have succeeded this year in raising some $600. Mr. Henry Neill, Jr., of the senior class presided and at 3 P. M., opened the exercises in the chapel of the Seminary. The address was delivered by Rev. William Adams, D. D., of New York, and was an able production.

One of the most interesting occasions of the week was the conference held in the Oratory at 7 P. M., Saturday night, at which Dr. Charles Hodge presided, Dr. Henry A. Boardman assisting. These exercises are usually held Sabbath afternoons and generally the professors make remarks on a previously announced portion of scripture. The Bible on this occasion was opened at the words "Let not your heart be troubled," and the passage read extended through fourteen verses. Dr. Hodge made quite extended remarks, to the graduating class, cautioning and instructing them for the last time in respect to their chosen work. Leaning forward upon the desk at which he was seated, with his arms stretched upon it, in his usual attitude of familiar intercourse he breathed forth the most earnest and heartfelt admonitions and encouragements. He was followed by Dr. Boardman in a few appropriate remarks.

On Sunday, the 21st, the Lord's supper was celebrated at the seminary chapel in the forenoon, and in the afternoon the closing missionary meeting of the year was held in the Oratory. At this meeting the customary speeches were made by those purposing to go out to labor in foreign fields. Mr. Gerald F. Dale, Jr., of Philadelphia, who is under appointment for Syria presided, and remarks were made by him and by Mr. Joseph P. Graham of West Virginia, who is under commission for India; and by Mr. Joseph L. Potter, who purposes to go to Persia or elsewhere, as he may be located by the Presbyterian Board of Foreign Missions. On Sunday evening the annual sermon was delivered by Rev. J. Edson Rockwell, D. D.

On Tuesday the 23d, the exercises of the graduating class took place. The assemblage convened at 1 P. M., and after an address from Dr. Boardman degrees were conferred on the following members of the senior class: D. K. Campbell, Jas. P. Colfelt, L. M. Colfelt, Gerald F. Dale, Jr., A. Dowsley, William Durant, Edward P. Elcock, James Fraser, Joseph P. Graham, Andrew Herron, Ellis W. Lamb, Charles Langlotz, David Magill, Robert F. McClean, C. L. McCracken, Gordon Mitchell, Henry Neill, Jr., Joseph L. Potter, Edward S. Scott, Isaac S. Simpson, Albert C. Titus.

The Hodge Jubilee, in honor of the fifteenth year of service of Dr. Hodge as professor in the seminary was celebrated on Wednesday. The weather was delightfully pleasant and so cool that shawls and cloaks were no embarassment. The morning trains came in behind time and heavily loaded. At 10:30 A. M., the procession filed out of the seminary campus, two by two, under the leadership of Prof. H. C. Cameron. The line was over half a mile in length. First came the students of the Seminary. Next the man "whom all delight to honor," Rev. Dr. Charles Hodge, D.D., L.L.D., and by his side the orator of the day, Rev. Joseph T. Duryea, D. D. After them the Directors of the Seminary, the Board of Trustees, the Faculty, officers of other theological and literary institutions and invited guests. On arriving at the First Presbyterian Church a little after 11 A. M., the vast assemblage filled the platform, the pews, the aisles, the windows and the steps, and many went away because seeing without hearing was only an aggravation. The galleries had been crowded by ladies and their escorts for more than half an hour, but the coolness of the weather enabled them to wait on the tiptoe of expectation without a murmur. Among those who occupied seats on the platform were Dr. Snodgrass, president of the Board of Directors, Dr. Duryea, Dr. Hodge, Prof. Aiken, Prof. Cameron, Ex-President Woolsey, of Yale College, Dr. John C. Backus and Dr. Henry A. Boardman. The audience presented an array of friends that was truly interesting to look upon. Representatives were present from the various denominations, Baptists, Episcopalians, Lutherans, Methodists and Congregationalists, who vied with each other in point of numbers and in interest in the proceedings. Japan was represented by the students who are studying here; and missionaries were present from Syria and India. At a signal from Prof. Cameron, the Philharmonic Society, sung that glorious anthem of praise, "Gloria in Excelsis," from Mozart's 12th Mass. A psalm was then read, and after singing Dr. Duryea was introduced. Dr. Duryea is a man of medium height, closely shaven and with a keen eye. He held the attention of the audience closely for over an hour while he discoursed upon "The Position of Theology as a Science—Its Right to be called such; its Methods and Results." Dr. Boardman followed with an address of congratulation, to which Dr. Hodge responded with a pathos, that touched every heart. On rising he was greeted with long applause and the audience remained standing until the close of his remarks. After the close of these exercises the Alumni Association was immediately organized and some business transacted. An elegant collation given by the faculty of the seminary was then partaken of in the Gymnasium.

At 3:30 the company again assembled in the church, where congratulations were tendered to Dr. Hodge. Rev. J. L. Porter, D. D., Professor of Sacred Literature, with a few appropriate words presented a testimonial from the Assembly's College at Belfast, Ireland; Dr. McCosh then tendered congratulations from the Reformed, the United Presbyterian and the Free Churches of Scotland respectively. Rev. Hugh Smythe, of Belfast, Ireland, was the bearer of a congratulatory paper from Magee College, Londonderry, Ireland. Congratulations were also received from the University of Edinburgh, and from many seminaries and colleges in this country. Dr. Henry B. Smith represented Union Seminary, and Dr. M. W. Jacobus the Seminary at Allegheny. Dr. Egbert C. Smyth responded for the Congregational Seminary at Andover. That at Yale was represented by Dr. Theodore D. Woolsey, who was greeted with loud and prolonged applause which for a time prevented his speaking. The Episcopal Seminary at Hartford, was sustained by the Rev. Dr. Veamilye. Dr, Jos. Y. Cooper, from the United Presbyterian Seminary at Allegheny spoke next. Dr. Krauth spoke for the Evangelical Lutheran Seminary in Philadelphia. Dr. Francis L. Patton, Professor-elect to the chair of Theology at Chicago made a speech which elicted much laughter. Letters from Bishops Johns and McIlvaine, of the Protestant Episcopal Church were then read. Dr. E. P. Rogers of New York, spoke in behalf of the Reformed Seminary located at New Brunswick, and other speakers were called for and heard. Altogether the occasion was one of exceeding interest and most earnest good will. After sitting patiently for two hours and a half, the audience began to disperse and the association adjourned for one year.

In the evening from 7 o'clock to 9, a reception was held at Dr. Hodge's which was largely attended by the alumni and guests. Music, congratulations, and a brilliant illumination of the old Seminary building diversified the informal exercise of the evening. At about half-past eight, Dr. Hodge was privately called up stairs and presented with a purse of $10.000, by Dr. J. C. Backus, in behalf of the donors.

The evening trains carried away many of the guests and on the following morning, but few were to be seen. Among those present were the following:

Rev. Salmon Strong, D. D., of Harrisburg, Dr. Campbell, President of Rutgers' College, Dr. John Hall, of New York, Dr. Blackwood, of Philadelphia, Mr. John C. Green, who gave some $200.000 for the erection of Dickinson Hall, the largest recitation building of the College, Judge Porter, of Philadelphia, Dr. Philip Shaff, General David Hunter, Dr. A. A. Hodge, Rev. Frank Hodge, all the family and many of the relatives of Dr. Hodge, the aged Professor Packard of Bowdoin, Rev. J. R. Graham, of the Presbyterian Church (South); and Rev. Z. M. Humphrey, D. D., Rev. Wm. P. Breed, D. D., Rev. Dr. Cowell, and Rev. A. V. C. Schenck all of Philadelphia and many others.

It is proposed to publish a memorial pamphlet or volume commemorative of the occasion which shall contain the addresses, letters of congratulation, a historical sketch and portrait of Dr. Hodge, an account of the day's proceedings, the list of persons present and other items of interest to the friends of the Seminary. It is understood that about $45,000 of the $50,000 desired to establish the Hodge professorship have already been raised, and it is expected that the remainder will soon be obtained. The occasion was thoroughly enjoyed and will long be remembered by those who were present.

* * *

Princeton, April 25th, 1872.

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THE UNIVERSITY OF VIRGINIA

The following in reference to the early history of the University of Virginia is taken from a long article in the May number of *Harper's*. The article was written by Prof. Schele De Vere, Professor of Modern Languages in the University under the title "Mr. Jefferson's Pet." After giving a long and minute account of the circumstances of the origin of the institution, and Mr. Jefferson's share therein, the article continues as follows:

Each of the professor's houses, which he (Mr. Jefferson) perferred calling pavilions, was adorned with a Grecian portico, in which he exhibited to his admiring countrymen models of all orders, and forever brought before the eyes of the students the finest specimens of classic architecture. Skilled sculptors and able carvers were by him imported from Italy for the special purpose of copying in costly marble the best models, and he himself watched over their faithful execution to the smallest detail. Descendants of these Italians still live in the neighborhood, and look with just pride at the excellent work with which their fathers adorned the noble structures. Mr. Jefferson, however, soon found out that the same work could be done more cheaply in Italy, and thereafter sent his orders across, and received the finished capitals and pediments from abroad. Thus house after house arose on two sides of the handsome lawn, sloping in three terraces toward the open side, which faces the south, while the ten pavilions intended for the professors were connected by long, pillared arcades, which furnished covered access to all the houses, and at the same time screened the dormitories occupied by the students. Two parallel ranges of similar rooms, each occupied by two tenants, ran to the east and west of the lawn at a lower level, and the intervening space, intersected by carriage-ways, furnished the necessary yards and gardens. The upper side of the long quadrangle was subsequently inclosed by a large rotunda, built after the model of the Pantheon at Rome, though reduced to one third of its size, and deprived of its lofty columns, except in front.

The buildings being erected, the next step was to secure a faculty and Mr. Jefferson's efforts in this direction are thus described:

Before deciding this grave question of the future of the faculty, he took pains to inform himself thoroughly on the subject, studying the history of German universities as well as of Oxford and Cambridge, and inducing his old friend and frequent visitor, Mr. Dupont de Nemours—high authority on such subjects—to write an essay on the best scheme of colleges for the United States. When he proceeded, with all this light before him, to look around for able professors, he soon found that the most capable men in this country were already engaged, as such talents and ability as he required were then by no means redundant. To entice them from other institutions would have been invidious, and so unwarrantable as to expose him to severe censure; to take inferior men would have disappointed public expectation, and was contrary to all his hopes and aspirations. He had to turn to Europe, therefore, and fortunately was able, through a well-chosen agent, in 1824, to engage a number of well-qualified professors, among whom there was not an obscure man, nor one whose private character and general religious principles were not such as to bear the closest scrutiny. The names of Charles Bonnycastle, well known in science, and of Robley Dunglison, pre-eminent in the annals of medicine, have a good sound wherever they are heard, while Thomas Hewitt Key, and George Long, earned no small fame in Virginia, and even more, subsequently, in England, to which they returned, and where the latter still stands foremost enjoying the highest reputation for ripe scholarship and rare critical powers. John P. Emmett, a nephew of the great Emmett, was chosen for the chair of chemistry, and an accomplished German for that of modern languages—for long years the only chair of its kind in any American college of high standing. Only the two professorships of law and moral philosophy Mr. Jefferson, with his usual tact and intuitive justness of perception, determined to bestow, at all hazards, upon natives, as the subjects here to be taught ought to be national in the highest sense of the word. He even suggested that the text-books to be used by the professor of law should be prescribed, so that "orthodox political principles" might be taught, and "the vestal flame of republicanism" be kept alive. The Hon. George Tucker, a native of Bermuda, but long a resident and at that time a representative in Congress from Virginia, was chosen for the chair of moral philosophy, and soon justified Mr. Jefferson's choice by his success as a teacher and the fame he acquired by his literary works. Another Virginian, John Taylor Lomax, was subsequently appointed professor of law.

The University was opened on the seventh of March 1825, and Mr. Jefferson's attention was now turned to its government. His plans and success are depicted as follows:

He was specially interested now in framing a code of laws for the government of the young men, and tried, unsuccessfully as it proved, to ingraft upon this code some of his own peculiar political doctrines. Thus he rejected at once all idea of punishment. No slavish fear, he said, no dread of disgrace, ought ever to be the motive of a young man's actions. He proposed to govern them solely by appeals to their patriotism and honor, and framed his laws accordingly. The students themselves were to form a part of their government, and to establish a court for the trial of minor offenses and the infliction of punishment on delinquent fellow-students. Unfortunately the youth of the land were not yet prepared to be governed by appeals to "their reason, their hopes, and their generous feelings," as the illustrious founder had hoped in his ardent admiration of ideal republicanism. Offenses were committed, and, being allowed to pass unpunished, led to graver disorders, till, passing from step to step, they reached a point of excess which could no longer be tolerated. When at length the professors interfered, forbearance having become impossible, the students fancied their rights were violated, and declared open resistance.

On the very night on which the Board of Visitors had assembled at Monticello to prepare business for their annual meeting at the university, these disorders culminated in open rebellion. Mr. Jefferson's mortification was intense. He felt that public confidence would be shaken, and the growth of the institution would be checked; but he was specially grieved by this evidence of the erroneousness of his favorite idea of self-government. With sorrow in his heart, and grief mingled with indignation in his features, he accompanied his distinguished guests the next morning to the university, summoned the students to their presence, and then addressed them in forcible terms, representing to them the heinousness of their offense, and appealing in touching, tender terms to their better feelings and their sense of honor. Mr. Madison and others followed his example, and so impressive were the words of these venerable men that the ringleaders came forward, one by one, confessing their guilt. Mr. Jefferson witnessed the affecting scene with silent sorrow; but when a near kinsman of his appeared, and thus proved to him that the efforts of the last ten years of his life had been foiled, and all his bright hopes of what he would do for his native land had been destroyed by one of his own blood, his self control gave way, and he indulged, for once, in words of burning indignation and violent reproach. The principal rioters were expelled, and among them his guilty kinsman, and others more lightly punished; but from that day a stricter code of laws was introduced. Even now, however, the government of the university was strictly based upon the moral sense of the students, and every effort made to cultivate truth and uprightness among them. To this day this is the leading principle—no marks of merit and demerit are given, no fines imposed, no threats held over the young men. Their word is taken without questioning, and a falsehood punished so instantly and so severely by their own condemnation that no attempt to obtain honors or to avoid punishment by prevarication has been made for nearly a generation! Another principle inculcated by Mr. Jefferson has largely contributed to this happy result—that the government of a great institution depends largely on the friendly social relations between students and professors. Hence he placed the former, in their dormitories, close to the door of their teachers, counting upon the happy effects of daily intercourse, and foreseeing that the mutual kindly sympathy thus created could not fail to become an important aid in educating the moral faculties as well as in cultivating the understanding. This custom also has ever since been kept up: the professors are at all times accessible to the students, and perfect confidence and mutual sympathy bind them to each other.

THE LAWS OF BOAT RACING.

A meeting of the Boating fraternities of Oxford and Cambridge Universities, and the principal boat clubs of London, was recently held at Putney, at which the following laws to govern the racing of those clubs were agreed upon:

1. All the boat races shall be started in the following manner:—The starter on being satisfied that the competitors are ready, shall give the signal to start.

2. If the starter considers the start false he shall at once recall the boats to their stations, and any boat refusing to start again shall be disqualified.

3. Any boat not at its post at the time specified shall be liable to be disqualified by the umpire.

4. The umpire may act as starter, if he thinks fit; where he does not so act the starter shall be subject to the control of the umpire.

5. No fouling whatever shall be allowed; the boat commiting a foul shall be disqualified.

6. Each boat shall keep its own water throughout the race, any boat departing from its own water will do so at its peril.

7. A boat's own water is its straight course, parallel with those of the other competing boats, from the station assigned to it at starting to the finish; and the umpire shall be sole judge of a boat's own water and proper course during the race.

8. The umpire, when appealed to, shall decide all questions as to foul,

9. A claim of foul must be made to the judge or to the umpire by the competitor himself before getting out of his boat.

10. It shall be considered a foul when, after the race has commenced, any competitor, by his oar, boat or person, comes in contact with the oar, boat or person of another competitor; unless, in the opinion of the umpire, such contact is so slight as not to influence the race.

11. In case of a foul, the umpire shall have the power—

(*a.*) To place the boats—except the boat committing the foul, which is disqualified—in the order in which they come in.

(*b.*) To order the boats engaged in the race, other than the boat committing the foul, to row over again on the same or another day.

(*c.*) To restart the qualified boats from the place where the foul was committed.

12. The umpire, may, during a race, caution any competitor in danger of committing a foul.

13. Every boat shall abide by its accidents.

14. No boat shall be allowed to accompany a competitor for the purpose of directing his course or affording him other assistance. The boat receiving such direction or assistance shall be disquallified at the discretion of the umpire.

15. The jurisdiction of the umpire shall extend over the race, and all matters connected with it, from the time the race is specified to start until its final termination; and his decision in all cases shall be final and without appeal.

16. Any competitor refusing to abide by the decision or to follow the direction of the umpire shall be disqualified.

17. The umpire, if he thinks proper, may reserve his decision, provided such decision be given on the day of the race.

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SCIENTIFIC.

A Theory of a Nervous Atmosphere.—This theory recently proposed by Dr. B. W. Richardson of London, is in some sense a return to the old view respecting nervous action [fluid hypothesis], and in some sense also is an extension to the nervous system of the physical idea of communication of motion by molecular disturbance. In a few words, the author supposes that the blood, as it circulates through the vessels, yields a diffusible vapor or atmosphere which charges the nervous system, surrounding the molecules of nervous matter and pervading the whole nervous organism. He attempts to formulate the physical qualities of this vapor; it is probably an organic vapor containing carbon, hydrogen, and nitrogen; it is insoluble in blood, it is condensible by cold, diffusible by heat; it possesses conducting power, and as a physical substance is susceptible of variations of pressure; it connects the nervous system in all its parts together; it is the medium of communication during life between the outer and the inner existence; by the organs of the senses the impressions and motions derived from the outer world are vibrated into or through the nervous atmosphere to the brain; in the living and healthy animal the nervous ether, if we may so designate it, is in correct tension, in the feeble it is diminished, in the dead it is absent or inactive; in the waking times of the living it is most active; it may be used up faster than it is produced during exercise; it is renewed during sleep. On the supposition of the existence of a nervous ether or atmosphere, the author accounts for various phenomena. It is assumed that vapors of chloroform or alcohol, for example—taken into the blood and carried to the nervous system, become diffused through the nervous atmosphere. 'The foreign vapor that has been introduced benumbs; in other words, it interferes with the physical conduction of impressions through what should be the cloudless atmosphere between the outer and inner existence.' The rapid action of certain poisons, and the diffusion of the products of decomposition generated within the body itself, in disease, and the sudden collapse of nervous action which is often seen, are similarly accounted for by the author of the theory.—*Nature.*

Professor Agassiz's New (?) Crustacean.—In the *American Journal of Science* for May, Mr. S. I. Smith notices the new crustacean, Tomocaris Peircei, discovered by the Hassler Expedition and described by Professor Agassiz in his letter from Rio, published in the COURANT of April 6, and states that the animal is evidently one of the Serolis family, belonging apparently to the same genus, perhaps to the same species, as an animal described by Dr. Eights in 1833, under the name Brongniartia trilobitoides. This animal of Dr. Eights, discovered on the coast of Patagonia and at the New South Shetland Islands, was described and figured in the second volume of the *Transactions of the Albany Institute*, and attention called to its resemblance to Trilobites. It has been regarded, however, by Milne Edwards and other naturalists, as only a species of the genus Serolis, and it is described in Edwards's great work on crustacea under that genus. The species of the Serolis family have always been regarded as true Tetradecapods, differing from the majority of that group only in having the first ring of the thorax joined firmly to the head, and the first three pairs of legs belonging to the abdomen not included within the valves of the under side of the tail as in the more common forms of Isopods.

To account for the nine rings in the thorax of Tomocaris Peircei, Mr. Smith supposes that what Professor Agassiz calls the head includes the first ring of the thorax, and what are described as the last three rings of the thorax belong really to the abdomen. The description of the head of Professor Agassiz's crustacean, the eyes, the "facial suture," the division of the rings into three lobes, the prolongation of the rings into prominent lateral points curved backward, the small sixth ring, the abdomen embraced between the last curved points of the sides of the thorax and with an articulated or attached sidepiece, all agree perfectly with Dr Eights's animal. In one point only is there any disagreement. Professor Agassiz describes the nine pairs of legs as all alike in structure, which is not strictly true of any of the Serolis group; the description of the position and relative size of the legs, however agrees perfectly.

If Mr. Smith is right in his statements, Professor Agassiz's animal answers to none of the predictions, made in the first letter to Professor Peirce, of what manner of crustaceans were likely to be found by the expedition.

Science of Color a Mental Science.—In a late lecture before the Royal Institution, Prof. J. Clerk Maxwell illustrated Young's doctrine of color vision, and remarked that it was the first consistent theory of color. The elementary truth recognized thereby is that the difference in colors must be sought not in the nature of light but in the constitution of man. The explanation is therefore not to be reached by the study of pigments nor in the analysis of the rays of light. We quote a paragraph or two from Prof. Maxwell's lecture:

"I have here a picture of the structure upon which the light falls at the back of the eye. There is a minute structure of bodies like rods and cones or pegs, and it is conceivable that the mode in which we become aware of the shapes of things is by a consciousness which differs according to the particular rods on the ends of which the light falls, just as the pattern on the web formed by a Jacquard loom depends on the mode in which the perforated cards act on the system of movable rods in that machine. In the eye we have on the one hand light falling on this wonderful structure, and on the other hand we have the sensation of sight. We cannot compare these two things; they belong to opposite categories. The whole of metaphysics lies like a great gulf between them. It is possible that discoveries in physiology may be made by tracing the course of the nervous disturbance 'up the fine fibers to the sentient brain;' but this would make us no wiser than we are about those color sensations which we can only know by feeling them ourselves. Still though it is impossible to become acquainted with a sensation by the anatomical study of the organ with which it is connected, we may make use of the sensation as a means of investigating the anatomical structure. A remarkable instance of this is the deduction of Helmholtz's theory of the structure of the retina from that of Young with respect to the sensation of color. Young asserts tnat there are three elementary sensations of color; Helmholtz asserts that there are three systems of nerves in the retina, each of which has for its function, when acted on by light or any other disturbing agent, to excite in us one of those three sensations. No anatomist has hitherto been able to distinguish these three systems of nerves by microscopic observation. But it is admitted in physiology that the only way in which the sensation excited by a particular nerve can vary is by degrees of intensity. The intensity of the sensation may vary from the faintest impression up to an insupportable pain; but whatever be the exciting cause, the sensation will be the same when it reaches the same intensity. If this doctrine of the function of a nerve be admitted, it is legitimate to reason from the fact that color may vary in three different ways, to the inference that these three modes of variation arise from the independent action of three different nerves or sets of nerves."—*Scientific Press.*

A New Photographic Process.—An entirely novel method of photographic printing has just been discovered by M. Merget, Professor of Physics at the Faculté des Sciences of Lyons. The principal points discovered by M. Merget may be thus summarised:

1. The vaporization of mercury is a continuons phenomenon, that is to say, the metal emits vapor at all times, even at a very low temperature, and when in a solidified form.

2. Mercury vapor may be condensed upon certain substances, such as carbon, platinum, etc., without these latter being chemically affected.

3. Mercury vapor will pass with exceeding facility through porous bodies, such as wood, porcelain, etc.

4. The salts of all precious metals when in solution are very sensitive to the action of mercury vapor, which has the effect of rapidly reducing them.

The most sensitive to mercury of the precious metal salts are nitrate of silver and the soluble chlorides of gold, palladium, and iridium, and paper prepared with any of these, forms at once a most delicate test for the volatile metal; but the solutions must contain some by grometric body to prevent complete dessication, so that the surface coated with them will always remain in a moist condition. To demonstrate how exceedingly sensitive this test paper is to mercury, we may state that a section of wood exposed to mercury vapors and afterwards pressed in contact with a sheet of sensitive paper, prints off upon the surface all the rings and markings it possesses, the mercury being deposited in the pores of the wood in a more or less condensed form.

In the event of nitrate of silver being used for preparing the paper, it is necessary, obviously, to exclude the light, as otherwise a reducing action will be already set up by solar means alone; but with the salts of palladium or platinum no such action need be feared. According to the kind of metallic salt employed, so the tint of the impression varies; but in most cases an intense black may be obtained where the action has proceeded far enough. Having described M. Merget's discoveries thus far, it is easy to guess how that gentleman employs them in the carrying out of a photographic process. An ordinary glass negative, possessing an image which has been formed by the deposition of silver particles, is prepared in a suitable manner to protect it from injury by contact with the mercury (such for instance, as coating it in some way with platinum or carbon particles), and the picture is then exposed to the action of mercury vapor. The vapor condenses, in a more or less concentrated form, upon the image—in the same way, pretty well, as it becomes deposited upon, and deveopes the latent image in the daguereotype process—and subsequently the plate thus treated is brought into contact with the sensitive paper. The consequence is that the minute particles of mercury deposited all over the image exercise a reducing action upon the salts on the surface of the paper, and a print of the original photograph results, possessing the same gradation of tint as the original. Indeed, when nitrate of silver is employed for sensitizing the paper, the photograph secured is in every respect similar to that produced by light in the ordinary silver printing process, and the picture is forthwith toned and fixed in the same way, in fact, as one of these; in the one case, however, the reduction of the silver salts has been brought about by mercury vapor, while in the other light alone has been the reducing agent. Impressions obtained by means of platinum and palladium salts need simply to be washed in water in order that they may be permanently fixed. These latter, in truth, are so indestructible and inalterable that they cannot be destroyed except by a chemical agent which would at the same time radically injure the paper or other basis upon which they rest.

This process of photography is not yet in such an advanced state as to be of any practical importance; but nevertheless, it is certainly one of the most ingenious and interesting discoveries made of late in this branch of science. The great advantage it possesses is that of printing without the aid of light, and yet producing prints with detail and half tone dependent upon delicate chemical reaction—such rare gradation being secured as our present light printed pictures (silver and carbon prints) alone possesses. A mechanical printing process could, of course, easily be worked out from these data, if considered desirable; and indeed, it is by no means improbable that this will be the most successful way of applying the discoveries in a practical form. But even in the event of no practical use at all being made of the process—for this is indeed questionable, the research, regarded from a purely scientific point of view, is deserving of the highest eulogium. —*H. Baden Pritchard, in Nature.*

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, MAY 4 1872.

THE New York *Times* of Wednesday last contained a very singular paragraph in reference to the election of the Alumni members of the Corporation of Yale. The writer charges that a circular has been issued signed by the Secretary of the college, recommending a choice of names for candidates for the position of Fellow of the Corporation from a list which is given. It is perhaps sufficient to say that this charge is false from beginning to end. The Secretary of the college has issued an advertisement asking for nominations, but not even naming, much less recommending a single name as a candidate. The circular which is given in the *Times'* paragraph and which does recommend certain names for the position, came from New Haven, but not from the Secretary of the college.

WE suppose it is generally understood that newspapers do not take any notice of anonymous communications. Some, however, seem to be ignorant of this fact, for nearly every week some one sends us something entirely unaccompanied by anything which will give us any clue to its authorship. The last thing of the kind that came to hand was a communication from New York pitching into the Yale Alumni Association in that city. Now if any one wishes to criticise the management of that organization or any other, appropriate to the sphere of our paper, in decent, temperate language, our columns are open. But we can print nothing unless we know who wrote it. We don't care to publish the name of the author of any article, but for our own security we must know that name.

THE project for a great central Methodist University in the southwest, to which we have made reference two or three times, does not meet with undivided favor even among the heads of the church in that section. Bishop McTyeire supports the scheme, but Bishop Pierce is bitterly opposed. The matter has been discussed in the local press for some time and there seems little probability that the scheme will succeed, at least without a hard fight. The Raleigh, North Carolina, *Christian Advocate* in alluding to the matter, says with a great deal of force: "We need to devise means to fill the colleges already built more than the erection of new ones. None of our academies and colleges are full. We had better enlarge the capacities of our present colleges, and labor to fill them with students. It is perfectly obvious that the multiplication of institutions does not proportionately increase the students. The erection of a central university will not of itself fill its halls with students. And if it did, it would but diminish the thin attendance at our conference colleges. What would be gained by drawing students from other Methodist colleges to fill the central university? Besides, a great central university would tend to make our conference colleges appear as the "little church around the corner," unworthy of patronage when compared with the aristocratic pretension of the great central."

We can but hope that those who are at the head of this movement will consider the matter well before they add another to the so-called universities. Let them raise funds and labor for the cause of education if they will, but let their energies be expended not in starting new institutions but in bettering those which now exist.

"HOW TO START A COLLEGE."

Under the above heading last week's *Independent* has two articles of considerable length, the one a communication from Prof. E. H. Merrell of Ripon College, Wis., and the other an editorial suggested by this communication. Professor Merrell argues that the first requisite to founding a college is to find the right place, meaning by that, as we understand him, that the college should be the exponent of some thought or principle and should make its work, the development and spread of that principle, or the college should fill an obvious lack in the "intellectual, moral and spiritual" development of the people; in other words, there should be a need for the institution. The second requisite is "men called of the Lord to the work." And those who are called, according to Professor Merrell, possess "culture adaptation and faith."

The editorial of the *Independent* does not indorse all that Professor Merrell says, but assumes that our new states need colleges and thinks that the way to start a college is to commence small, say with two or three teachers, show that there is need of the institution and that it is a success, and then ask for endowments. It argues that this is the way the succesful Western colleges have grown up, and that this is the natural way. Still further, "if there is any need for a college, it can be and ordinarily must be built up in this way."

Now, we have no especial fault to find with Professor Merrell's article. The points brought out seem to us in the main correct, and if he has not given any consideration to the physical side of the question, we suppose it is because he exhausted his space before he got to that point. But there are one or two points in the editorial of the *Independent* which we should like to touch upon. And first, we do not believe the assumption that our new states need colleges. We have now in the United States more than three hundred and seventy-two colleges, or institutions that are called colleges, and they have at least this, as a voucher for their claim to the name, that they are entitled by law to confer the degree of Bachelor of Arts. These institutions are scattered all over the country, from Maine to Texas and from Virginia to California. They are of all grades of excellence from very poor indeed to quite good, and form as it seems to us, a mass that needs improving in quality rather than in quantity. But although there are this number of institutions devoted to the higher education, and although they are well scattered over the country it would be no argument against an increase in this number, if these colleges had all reached their maximum growth and were all filled with students. But this is not so. There is not an institution in the country that has reached anything like its limit in size, and but very few that approximate to small universities. And as for students they range from twenty to from twelve to fourteen hundred each. Those who are at all conversant with the condition of the colleges of the country are well aware that very many of them are far from being in a flourishing condition. Their continual cry is for money and assistance, else they must go down. And in reference to the advantages they offer, it was asserted in Boston only a few days ago that many of the Western colleges were no better than some of the Eastern academies and fitting schools. This is probably scarcely true in fact, but is so near to the truth, that the friends of the institutions comprehended in the remark must blush for their so-called colleges. And in view of this meagerness of advantages and the poorness of the scholarship turned out by many of the colleges of the country, we cannot help regarding these institutions as a disgrace to the higher education and begging that American educational advantages be not judged by her collegiate, but by her admirable common school system. And we venture the remark, that if any man or body of men who are cherishing the idea of founding a college, will make a tour of inspection through the colleges of the country, they will, if they are at all believers in the principle that quality should be regarded before quantity, abandon their project and devote their energies to improving some of the colleges which now exist.

There are two considerations, however, which may invalidate the arguments urged above. One is that the new states need colleges because of the effect of colleges upon the intellectual development of the people of that state. It, of course, cannot be denied that an educational institution of high rank in close proximity to a people will have, or at least, ought to have, an elevating influence upon those among whom it is situated. But in these times there are a number of considerations that tend to deprive this argument of weight. Prominent among these are our common school system, our system of public lecturers and the abundance of newspapers. With these instruments at work it seems to us safe to defer the founding of colleges for the sake of their influence upon the intellectual development of the people until some stronger reason arises, if not indefinitely. The other consideration is that the inhabitants of a state will be unlikely to take any interest in an institution outside of their own borders. To this it is enough to reply that culture is not bounded by state lines and that already some of our best institutions have an influence that is almost national. It is time, it seems to us, that sectional pride and sectional jealousies were done away with in the matter of education, and that the energies of the whole country were united in sustaining a few really good schools of high rank.

The other point in the editorial of the *Independent* to which we take exceptions is that it is well to start a college without an endowment. The statement of the *Independent* that this is the way in which most of the promising Western colleges have been started is quite true, and it might have enlarged its assertion and said that, with the exception of a few institutions that have been founded within the last dozen years, all the colleges in the country have been so started. But we claim that the time for such methods has gone by. We do not think that the *Independent* will argue that those colleges were started without an endowment from choice. The reason was, that when they were started the country was poor and no endowment could be secured. They were compelled either not to start at all, or to start poor. And they very wisely chose the latter. But the time for that has gone by. The country is becoming more wealthy and the same necessity does not exist at the present time. Collegiate institutions we acknowledge to be a necessity, and it was well, when all or nearly all were poor alike, to start without endowment some, at least, of the colleges which now exist. But when, as is now the case, some of the colleges in the country, have secured an endowment, meager though it may be, and too often is, how is a college with no endowment to compete with them, or indeed continue long to exist, especially when there are so many colleges as there are now in the country. It is true, that where there are strong local interests in such an institution it may eke out an existence for some time and ultimately perhaps attract an endowment, but in these days of easy transit, the larger and better endowed institutions stand much the best chance to draw students. Our chief objection, however, to unendowed colleges is that they are frauds upon the students. From the very nature of the case, they cannot offer the advantages which may be found in well endowed institutions. Very rarely do we find men of the first rank of talent laboring with very small pay, or with almost no pay, when more money can be secured elsewhere; and it is entirely evident that libraries, apparatus and buildings cannot be obtained without funds. And yet, all these things, buildings, apparatus, libraries, and men of talent are necessary to constitute good educational advantages. And the student who attends an institution where such advantages are not offered and furnished, is simply cheating himself. In the forcible words of President

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Burns of Simpson Centenary College in reference to unendowed institutions "Their poverty renders it impossible for them to do justice to the student. It should be known by every young man or woman seeking an education that an unendowed college can not help being an imposition. It may display a liberal curriculum. It may have commodious buildings and even be entirely free from debt; still its chairs are filled at starvation salaries, and its students are unblest by either library or apparatus." And again, "No amount of rhetoric regarding cheap living, moral surroundings, or loyalty to home institutions should induce a young man to spend his college years amidst inferior surroundings. If founders or managers of colleges will allow them to be destitute of attractions and the proper appliances for conferring respectable scholarship, let them be greeted with empty halls.,,

If we were called upon to answer the question "How to start a college?" we should say first: Be sure the college is needed, and upon this point let there be not the slightest doubt. When this is decided in the affirmative, then let ample endowment and means be secured. The men who are "called of the Lord to the work" and the remaining necessities will follow.

THE YALE CORPORATION IN THE WEST.

ST. LOUIS.

At a large and enthusiastic meeting of the Yale Alumni Association of St. Louis, held on the evening of April 25th, the following resolution was adopted:

Resolved, that in the opinion of the members of the St. Louis Yale Association, a prominent design in choosing the new Fellows of the Yale Corporation, is to secure persons representing the country at large, and not a particular section or locality; and that we therefore have selected the following nominees, having assurances from those residing in the West and South that they will not be disqualified by reason of distance, or any other cause, from attendance at the meetings of the Corporation and devotion to the interests of the College.

The following ticket was then presented and endorsed by the club; Judge A. Taft, class of '33, Cincinnati, O., Jos. E. Sheffield, A.M., '71, New Haven, Ct., Judge W. F. Cooper, class of '38, Nashville, Tenn., Mason Young, class of '60, N, Y. city, Edward G. Mason, class of '60, Chicago, Ill., M. Dwight Collier, class of '66, St. Louis, Mo.

It is the general feeling West and South that these sections of the country should have some representation amongst the members of the new Corporation about to be voted upon, believing, as the Yale graduates West of the mountains do, that the more extensive the territory represented, the more general and more beneficial will be the results reached by the Corporation. There are gentlemen, not only competent to serve, but willing to attend any meeting the Corporation see fit to hold, and to whom distance is no barrier. It is hoped that our fellow Alumni of the East will not, in casting their final votes, entirely ignore the claims of those whose love for their Alma Mater burns as strong and as fervent as that of those who dwell beneath the shades of the elms of old Yale. G.

CHICAGO.

A meeting of the Chicago Yale Association was held at the Sherman House Wednesday evening, April 24th, Rev. C. D. Helmer presiding. The following resolutions were adopted:

Resolved, That it is the sentiment of the members of the Chicago Yale Association that the selection of the representatives of the alumni in the Corporation of Yale College should not be confined to those living in the neighborhood of the college, but that the graduates should be, as far as possible, nationally represented, and we therefore nominate as suitable persons to be voted for at the election of new members of the Corporation: Prof. F. W. Fisk, of Chicago, Ill.; Hon. A. Taft, of Cincinnati, O.; Hon. B. Gratz Brown, of St. Louis, Mo.; Hon. W. P. Lynde, of Milwaukee, Wis.; Gen. J. T. Croxton, of Paris, Ky.; Rev. G. Thatcher, D. D., of Iowa City, Iowa; and,

Resolved, That all graduates of Yale residing in the Northwest, who do not expect to attend said election, are requested to send their proxies in favor of the foregoing persons to Rev. C. D. Helmer, President of the Chicago Yale Association, Chicago, Ill.

THE METEOROLOGY OF APRIL. 1872.

The mean temperature of the month of April at New Haven was 47.6 degrees, which is 0.7 degree above the average of the month. This result is due to the high temperature of the last few days of the month, especially the 26th and 27th. Up to that time the temperature of April had been below the mean. The highest temperature of the month was 84.5 degrees on the 26th; the lowest was 28.1 degrees on the 18th. The range of the thermometer for the month was 56.4 degrees, which is nine degrees greater than the usual range.

The high temperature of April 26th was quite remarkable, having been about as high as has ever been recorded in the month of April at this place. The following table shows all the cases in which the thermometer at New Haven has been recorded above 80 degrees in the month of April, during the past 94 years:

Year.	*Temp.*	*Year.*	*Temp.*
1844	85 degrees.	1846	84 degrees.
1872	84.5 "	1805	83 "
1783	84 "	1785	82 "
1787	84 "	1820	82 "

A slight difference of exposure is sufficient to make a difference of one or two degrees in the state of the thermometer, and since during this period of observation the position of the thermometer was repeatedly changed, we cannot confidently say in which year the temperature was highest; but we may safely conclude that during the past month the temperature was nearly if not quite as high as has occurred at New Haven during the same month since 1779.

The amount of rain for the past month was 1·56 inches, which is not quite half the average fall. The amount of rain and melted snow for the past four months has been 10·11 inches, which is about four inches less than the average for New Haven. E. L.

Yale College, May 1, 1872.

LITERARY.

Perodicals.—*The Lakeside Monthly* for May opens with chapters IX and X of "Twenty Years Ago," by D. H. Wheeler, and this is followed by a sketch of "Some California Savages," by Stephen Powers. In "The License System of Taxation," Walter Wright finds fault with our present system of taxation, and argues for the introduction of a system of raising money for the use of government, by licenses. Olive Thorne contributes a very readable sketch "About Books." The remaining articles are "Hysterics" by Dr. R. Ludlam; "Revisited," by B. Hathaway; "Pebbles and Mosses," by Josphine Clifford; "The Cregan Curse," by W. H. Burdett;" Sir Charles Dilke at Home," by Mary E. Beedy; "The Science of Lying," by W. L. Penfield; "A Glimpse," by G. E. Wright, and "The Lakeside Reviewer" in which Geo. E. Ferris, treats of "Charlotte Cushman and the Play of Macbeth," and H. W. S. Cleveland, of "Parks and Boulevards in Cities."

Perhaps the article in *Old and New* for May which will be most interesting to those interested in education, is Mr. Hoar's appeal for the passage of the National Education Fund Bill, which now lays in the Senate, under the head "Education in Congress." The condition of the country in the matter of education and the need of the bill are well set forth. Another thoughtful article is "The Place of Mind in Nature, and Intuition in Man," by Rev. James Martineau. The serials of the number are continued, and there are besides "Helen L. Gilson," by Mrs. P. M. Clapp; "Curiosities of Literature," by T. B. Perkins; and a number of other articles of interest.

In the May number of the *Overland*, the interesting series of articles on "Wine-Making in California" is brought to a conclusion. These articles have been very instructive and interesting. The second article on "The Northern California Indians" contains some interesting Indian legends and superstitions. Some of the remaining articles are "Pioneer Days of California;" "Forster's Life of Dickens;" "Chinese Interiors;" "A Nautical Career;" "The Second Bull Run;" "What they told me at Wilson's Bar," etc.

The *Contemporary Review* for April is a full and interesting number. It opens with "The Study of Sociology—Our need of it" by Herbert Spencer, and has "Is Eternal Punishment an Open Question in the Church of England?" by Anglicanus; "Peasant Proprietorship," by William Fowler, M.P.; "The Place of Mind in Nature and Intuition in Man," by the Rev. James Martineau; "Fenianism," a narrative, by one who knows, part II.; "The State, the Government, and Scientific Morality," by Henry Holbeach, (concluded); "Pleasure and Desire," by Henry Sidgwick; "Morality and Immortality," by the Rev. T. W. Fowle; The Eighth Article," by the Dean of Westminister.

In *The Saint Paul's Magazine* for April, we have part III. of "Septimius," by Hawthorn; the third article on "Literary Legislators," by Henry Holbeach; and chapters IX and X of "Off the Skelligs," by Jean Ingelow. There are also articles on "Mazzini;" "Criticism as one of the Fine Arts," by Walter Hutchison; "Seraphina Snowe," by the author of "St. Abe and his Seven Wives;" "Romance and Humor from the Blue Books," by A. Hunter, which latter seems to be the first of a series and treats of "Lord and Lady Dundonald's elopement to Gretna;" "Our Dinners," by May Haweis; and "Assai," by Robert Buchanan.

In *Good Words* for April, Rev. Charles Kingsley gives the fourth of his series of articles on Town Geology, treating in this one of "The Coal in the Fire." We have also chapters IX and X of "The Golden Lion of Granpere," by Anthony Trollope; "Spiritual Songs" by Geo. MacDonald; "The Man With three Friends" by Dora Greenwell; "Thanksgiving Day;" "The Idiot Colony at Caterham," by William Gilbert; "Wanderings in Spain," by A. J. C. Hare; and a thoughtful article on "Pauperism as produced by Wealth," by Rev. J. Ll. Davies.

The *Journal of Speculative Philosophy* for April, has "Rosenkranz on Hegel's Logic;" "Fichte's Facts of Consciousness;" "Hegel's Philosophy of Art," translated from Hegel's Aesthetics, by Miss S. A. Longwell; "Shakespeare's Merchant of Venice," by D. J. Snider; "A System of Empirical Certitude," by John C. Thompson; "E. v. Hartman on the Dialectic Method;" "Trendelenberg on Hegel's System;" a few pages of "Correspondence," and "The Difference between the Dialectic Method of Hegel and the Synthetic Method of Kant and Fichte," by A. E. Kroeger.

Among other interesting articles the May number of the *Phrenological Journal* has one on the History of Photography in America which will well pay perusal. Charles E. Townsend treats likewise of "Primary or Prismatic Colors" and a writer with the initials J. E. gives his opinion of "The First chapters of Genesis, Creation of Man, etc."

Besides its Music and Miscellany the *Folio* for May, has a fine engraving of Carl Zerrahan.

A small pamphlet of 36 pages reprinted from the *American Chemist*, where it first appeared, entitled, "*Assay of Gold and Silver, including Ores and Bullion*, as practiced at the School Mines, N. Y., by T. M. Blossom, A. M., E. M., has been received from the author. It is a valuable little handbook for the assayer, containing in a compact and convenient form very much important matter. Mr. Blossom has charge of the assaying department in the Columbia College School of Mines, and this gives his words the weight of authority.

A Lecture on Water, delivered by Professor C. F. Chandler of Columbia College before the American Institute in the New York Academy of Music, on the 20th of January, 1871, and printed in the Transactions of the Institute, lies before us. The lecture shows the same care and ability which are expended on all Dr. Cha-

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ler's productions, and which have made him already the best technical chemist in the country. The lecture contains a large amount of information, the value of which appears from the fact that it has been republished in the *American Chemist*, the *Journal of Applied Chemistry*, and the *Gas-Light Journal*.

The Cranial Affinities of Man and the Ape, By Prof. Rud. Virchow, No. 2 of Lee & Shepard's Half-hour Recreations in Popular Science, worthily follows Proctor's Strange Discoveries, etc. The lecture is too well-known to require description, having been originally published in the *Quarterly German Magazine*. Prof. Virchow is one of the ablest of modern thinkers. He is Professor of Pathological Anatomy in the University of Berlin and is a man of wide reputation as an original investigator and as a writer. He takes the boldest views on the questions of the day and has been duly denounced therefor. The numbers are neatly printed and published, and the series deserves success.

New Remedies, for April, fully sustains the high character which this excellent Quarterly, under the competent editorship of Dr. Horatio C. Wood, Jr., has already established for itself. While the judicious selections both in the greater departments of Therapeutics, Materia Medica and Toxicology, and in the lesser departments of Prescriptions, Formulas and General Receipts, are always fresh and readable, their chief value lies in the fact that they have passed the editor's searching eye and are therefore reliable. This number closes the first volume, and stamps the undertaking as a success. No physician who wants to keep up with the rapid advances in Therapeutics, will fail to keep "*New Remedies*" upon his office table. It is published by William Wood & Co.

Third Annual Report of the State Board of Health of Massachusetts.—We owe to the kindness of Dr. George Derby of Boston, the efficient Secretary of the State Board of Health, a copy of their Third Annual Report. Like most of the things which come to us from the old Bay State, these Reports are first class. The Board evidently do not regard their positions as places of luxurious ease; they are all hard workers. And the result is we have reports as creditable to them as to their State. The present volume is fully the equal in interest and practical importance of those which have gone before it. It contains, among other matters, papers of great value on "Arsenic in certain Green Colors," by Dr. Frank W. Draper, which is the best thing on the subject we have seen; on Milldams and other Obstructions, by Dr. Derby; on the Adulterations and Impurities of Food, an excellent paper, by H. B. Hill, chemical assistant in Harvard College, in which the Action of acid Fruits upon tin cans, the Adulterations and Impurities of Vinegar, and the Adulteration of Coffee, are considered; on The Use and Abuse of Opium, by Dr. F. E. Oliver; on the Effects on Health of the Use of Sewing Machines moved by Foot-power, by Dr. A. H. Nichols; on Slaughtering, Bone-boiling, and Fat-melting, by Dr. Derby; and an exhaustive and very able paper by Dr. Jas. C. White, Professor of Skin Diseases in Harvard College, on Vegetable Parasites and the Diseases caused by their Growth upon Man. From these titles, the character of the work which this Board of Health is doing is sufficiently apparent. We congratulate the people of Masschusetts upon the excellent results which have already accrued to them through its instrumentality.

Second Report of the Geological Survey of Indiana.*—The volume before us, for which we are indebted to Professor Cox, includes the Reports of the Geologist-in-chief and of his assistants Prof. John Collett and Dr. G. M. Levette, and a Manual of the Botany of Jefferson county, by Prof. A. H. Young of Hanover College. Professor Cox's field work was mainly confined to the workable coal in the middle and southern counties of the State and proves the existence of the remarkable Block coal from the northern limits of the Indiana coal-basin to the Ohio River. The Report—which includes also the results of much chemical work—shows the hand of a competent and reliable man of science.

* *Second Report of the Geological Survey of Indiana, made during the year* 1870. By E. T. Cox, State Geologist, Indianapolis, 1870. 8vo pp, 304.

Cecil's Tryst.*—The author of Carlyou's Year gives us in Cecil's Tryst a carefully constructed and pleasantly told story of some peculiar phases of English country life. The scene is laid among the stone pits of Sussex and we are there introduced to a set of characters sufficiently out of the line of common experience to be entertaining, yet in the main, within the limits of possibility. We cannot help regretting that the exigencies of the plot remove so early Cecil and Mr. Wray—the most agreeable of them all—while Jane—the most repulsive and least probable—is allowed to live on to the end. The fate of Ruth, too, seems unnecessary to the story and inconsistent with her faithfulness to the absent Cecil.

The characters are, however, in general agreeable enough to make us regret parting with them, the incidents are graphically and, at times, humorously told and the book is, as a whole, eminently readable. It is not weighed down by any overpowering "lesson" but is sufficiently like real life to carry some instruction to the reflection in an unobtrusive way.

* *Cecil's Tryst.* By the author of Carlyou's Year, &c. No. 371 Harper's Library of Select Novels, pp. 121. New York. Harper & Brothers, 1872.

Twenty Years Ago.*—This, the third of the series entitled "Books for Girls," purports to be the journal of a girl not yet grown to womanhood, who resided in Paris with a young and widowed sister, for something over a year, during one of the trying scenes in the history of France, the year of the Coup d'Etat of Napoleon III. It is written in a lively, vivacious style, and describes accurately, even minutely, the social life of Paris during that period. It appears to us rather more mature than the other books of the series; but Miss Muloch tells us that she has made no material changes in it. Beatrice Walford—for this is the name the author assumes for herself—must therefore have been a girl of rather more than average intelligence, with acute penetration and quick observation of persons and things. There is much French in the book; perhaps too much. Yet the editor says in her preface, "any young reader who finds this a difficulty—why, the sooner she takes her grammar and dictionary in hand and conquers it, the better."

The book is issued uniformly with the others of the series and is a fitting companion to them.

* *Twenty Years Ago.* From the Journal of a Girl in her Teens, Edited by the author of "John Halifax, Gentlemen." 16mo., pp. 354. New York. Harper & Brothers, 1872.

Maud Mohan.—In Maud Mohan by Annie Thomas, the hero is a young country baronet of very little positive character who has the fortune, or misfortune, to be ardently loved by, and in love with both the heroines of the tale, and the story accordingly turns upon his efforts to choose between them. His constant song is—

> "How happy could I with either be,
> Were t'other dear charmer away,"

and his irresolute perplexity calls to mind the sad case of a certain quadruped between two hay stacks. At last he becomes engaged to Maud, but circumstances lead to his marrying her rival. Providence now steps in, his wife dies, and after the interjection of this trifling episode, he marries Maud, and every one is happy in the end, especially those that have died. Aside from the absurdity of the plot the characters themselves are a very disagreeable set.

Maud is officious, the Olivers meanly disgusting, the rest nonentities. The style is slipshod, the tone vulgar and the book seems to finally develop into an advertisement of "some novelties in upholstery."

* *Maud Mohan.* By Annie Thomas, Harper's Library of Select Novels, No. 373 pp. 85. New York: Harper & Brothers. 1872.

The Best Reading* consists of two distinct parts, a "Classified list of Modern Publications now supposed to be in the market," and a few brief hints on "Reading and Courses of Reading." The latter are entertaining, and some of the suggestions seem quite valuable. The author is quite ready to say what he thinks, and says it well too. The bibliography is, however, the most important portion of the book. As it embraces merely books at present in the market it must be more useful to book buyers than book readers, but it is very successful in doing what it attempts; that is in giving a full list of the best books now in print on a vast variety of subjects. The judgment of the compiler as to the comparative merits of different works may at times be somewhat questioned and the work is marred by some positive errors in the names of authors. We are sorry, too, to see such entertaining and valuable works as Schwegler's History of Philosophy, and Jevon's Logic omitted from the lists of works on those subjects. In general, however, the compiler has carried out his undertaking—by no means an easy one, carefully and successfully. He has made a manual which must be indispensable to those making large purchases of books. The first part is prepared by Mr. F. B. Perkins.

* *The Best Reading.* Hints on the Selection of books; on the formation of Libraries public and private; on courses of reading etc., with a classified bibliography, pp. 255. New York: G. P. Putnam & Sons. 1872.

Science Primers.*—Messrs. Appleton & Co., have done a good service for scientific instruction in this country in reproducing Macmillan & Co's series of Science Primers. As the name indicates, these Primers are small and familiarly written class-books, exceedingly elementary in character and yet thoroughly true to science. No. I of the Series—the Introductory volume, written by Professor T. H. Huxley—has not yet appeared. Nos. II and III are before us. The great success of Dr. Roscoe's Lessons in Elementary Chemistry is evidence of his ability as a book-maker; his ability as a man of science rests on his numerous original researches and cannot be disputed. We find in the Chemistry Primer therefore, the same clearness and accuracy of statement which characterize his larger work. He first discusses Fire, Air, Water, and Earth, through 60 pages, and then takes up the non-metallic Elements, and the Metals. The closing chapter gives a glance into the laws of chemical combination and the rules of nomenclature and notation. A price list of the apparatus and chemicals needed, with hints for using them, is appended.

Professor Stewart's Primer is a model. He begins by reminding the child that things as well as persons have moods; and that the object of Physics is to enquire what is the cause of the moods observed in things. He then takes up motion and force, considers the chief forces of nature, gravity, the three states of matter, the properties of solids, liquids and gases, and the laws of moving, vibrating, heated, and electrified bodies; closing with a list of things to be remembered. His concluding paragraph presents in a striking way one of the fundamental distinctions between Chemistry and Physics; "just as the Science of Chemistry is built upon the principle that matter only changes from, going from

* *Science Primers.* No. II, *Chemistry.* By H. E. Roscoe, Professor of Chemistry in Owens College, Manchester. 18mo, pp. x, 103.

No. III. *Physics.* By Balfour Stewart, Professor of Natural Philosophy, Owens College, Manchester. 18mo, pp. x, 135. New York. 1872. D. Appleton & Co.

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one combination to another, and does not absolutely disappear, so the science of physics is founded upon the principle that activity or energy only changes form and never absolutely disappears."

The Primers are neatly printed, well illustrated and well bound in limp cloth. We hope they will find their way into every primary school in the land; for in the hands of competent teachers—and by this we by no means refer to those only who are profoundly versed in Science—the study of science may be made fascinating at an age when the mind easily grasps and retains it.

Man and his Dwelling Place.*—Mr. Hinton's "Man and his Dwelling Place" has reached a third edition. It is somewhat amended and abreviated from the first edition which appeared fourteen years ago. His views are singular, but they are advocated with much earnestness and in good taste. His fundamental doctrine is that man is dead, but is being redeemed. This redemption is through the sacrifice of Christ. The death of man is the occasion of sin, which is not therefore the origin of the evil in man's condition. The evil is the death which is before the sin. Sin indeed is the means of redemption; for "by sin our death is made conscious to ourselves." The great evil could not without sinful deeds be done away. "Sinning is damnation;" and hell is "God overcoming evil with good; consuming man by bounty." "To be loved as God loves us, we being such as we are, is to be cast into a lake of fire." If it be hard to believe that damnation can be a thing that men like, Mr. Hinton is ready to meet the objection with the triumphant demand: "Is corruption less corruption in man's view because sinners like it? Is damnation less damnation, in God's view, because sinners like it?"

Mr. Hinton's views of nature and science are in harmony with his views of man as in a condition of death. As man is dead, he must look upon nature as dead, and upon himself as really alive; just as in a moving boat we imagine ourselves to be stationary and the objects on the shore to be the moving bodies. The doctrine is earnestly maintained that nature is alive, is spiritual, is holy. Its invariableness is not passiveness but rightness, for right action is invariable; right action is absolutely conformed to law. Physical inertness is phenomenal only; it does not, cannot exist at all, it can only appear. Phenomena are but appearances; they are not the facts. If man's deadness were removed, the distinction between phenomenon and fact would be done away. The relation between the phenomenal and the fact seems to Mr. Hinton exactly to resemble that between false appearances and the truth of things. Notwithstanding he treats phenomena as actual entities, even speaks of the appearance of the phenomenal, and conceives the redeemed state of man as one in which the distinction between phenomena and fact will be done away, and notwithstanding science has to do only with phenomena, and is consequently false, bounding all its conclusions on the inertness of nature, yet science is the power by which the human mind is to be emancipated. Error must have precedence of truth; and it is the law of our present state that we should learn truth through illusion.

We apprehend that Mr. Hinton's reasonings will hardly convince careful thinkers; and that the perfection, which he claims men are to attain, consisting in utter self-sacrifice, will hardly win to earnest aspirations for it many dead worldlings. If man is to be redeemed we cannot believe that his book will induce many to seek the redemption which he expects. Men "are to be delivered," says Mr. Hinton, "from the necessity of getting; from that which makes hell and is the very bond of death." Christ saves us, not from suffering, but from death; not from pain, but from that which makes us flee from pain." "Life is, not to be afraid of suffering; to be so perfect in love that loss and sacrifice, extremest and utter sacrifice, the having nothing, but giving and bearing all things, is perfect joy."

There is much that is high and noble and pure in this volume, much that is one-sided and partial. There are many half-truths, many sophisms. Phenomena are indeed appearances; but they are appearances of some theory, some facts. Mr. Hinton's anticipation, therefore, that the distinction between phenomena and fact will be done away is absurd because contradicting the very nature of a phenomena which implies a fact, as a fact to be known implies its appearing, that is, its being taken as phenomenon. Appearances, again, are even partial and one-sided to human view. So far they are illusive. But, however imperfect and so illusive, they are even appearances of something which is real, and therefore science, dealing with phenomena and consequently with what is to some extent illusive with men, may lead to truth, but not as Mr, Hinton supposes, in so far as they are illusive but only in so far as they are true. Illusions as illusions, are not as he absurdly claims, the conditions of true knowledge, or its elements and means, but only its unavoidable hindrances. Man farther, in sin is dead—that is, dead to righteousness his proper life. But he is alive to sin, and, therefore, he is to be redeemed not from literal death to a new life of spiritual being, but to a true form of life. His spirit, his intellect, lives ever in the deadness which is metaphorically imputed to him. It is fallacious therefore in Mr. Hinton to infer that nature is living simply because man is dead morally. Kindness, once made to an enemy is "coals of fire on his head." It is a stretch of reasoning, however, to conclude from this, that hell is God's bounty to man in rebellion against him, sinful deeds, particular acts of sin, still farther, imply for the most part at least a disposition or habit lying back of them. It is sophistical to infer from this, that all sin originates in a death that precedes; or that the evil in man's case is before sin. Yet again, one sin leads to another and to habit of sin under the laws of the Creator; it does not follow that sinning is the damnation threatened in the Divine Law. And yet again, perfect holiness is constant and so invariable; and invariableness is a characteristic of necessity. Mr. Hinton's conclusion that therefore holiness is a necessity does not necessessarily follow. Such half truths with connected sophisms characterize the volume,

*Man and his Dwelling Place. An essay toward the interpretation of nature. By James Hinton, author of "Life of Nature," "The Mystery of Pain," etc. New York. D. Appleton & Co 1872. 12mo, pp. xxxvi, 301.

BOOKS RECEIVED.

Science Primers. Chemistry. By H. E. Roscoe, Professor of Chemistry in Owens College, Manchester, England. D. Appleton & Co. New York: 1872.

Science Primers. Physics. By Prof. Balfour Stewart, Professor of Natural Philosophy, Owens College, Manchester, Eng. D. Appleton & Co. New York: 1872.

Adele. By Julia Kavenagh, three volumes in one. D. Appleton & Co. New York: 1872.

The First German Reader. By Geo. F. Comfort, A.M. Harper & Bros. New York: 1872.

The Woman's Kingdom. By the author of "John Halifax Gentleman." Uniform edition, Miss Mulock's works. Harper & Bros. New York: 1872.

Martin Chuzzelwit. Household edition Dicken's works. Harper & Bros. New York: 1872.

Saunterings. By Charles Dudley Warner. J. R. Osgood & Co. Boston: 1872.

The Masque of the Gods. By Bayard Taylor. J. R. Osgood & Co. Boston: 1872. $1.25.

How the World was Peopled. By Edward Fontaine. D. Appleton & Co. New York: 1872.

What to Do and Why. By Nelson Sizer. Mason, Baker and Pratt. New York: 1872.

An Elementary Grammar of the Goeek Language. By Samuel H. Taylor. Ivison, Blakeman, Taylor & Co. New York: 1872.

An Elementary Manual of Chemistry. Abridged from Eliot and Storer. By W. R. Nichols. Ivison, Blakeman, Taylor & Co. New York: 1872.

Annual Report of the Board of Regents of the Smithsonian Institution. 1870. Government printing office. Washington: 1872.

COLLEGE RECORD.

Robert College (Near Constantinople, Turkey.)—*To the Editor of the College Courant.* Your notice of a meeting in Tremont Temple, Boston, in behalf of Robert College, near Constantinople, mentions a letter, which represents me as saying that "better recitations than were made by the seniors in Robert College could not be made by thirteen students picked from the senior class of any American college." I have no copy of that letter before me. It was hastily written, and may have contained expressions that need revising. If the letter were to be printed it would probably appear that I spoke of the thirteen seniors of Robert College as making recitations equal to those that would be made by the same number of students *taken by lot* from the senior class of any American college. Higher praise would not be true.

I am also reported as saying that "eight nationalities and six religions are represented in the faculty of Robert College. Perhaps four nationalities are represented in the faculty. The teachers are mostly Americans, and all are Protestants. One of them may be a Methodist, the others are Congregationalists and Presbyterians. Two or three members of the faculty are graduates of Robert College. E. N.

Hamilton College, April 29th.

Middlebury College, (Middlebury, Vt.,) The annual Junior exhibition at this college, was given on Tuesday evening, April 23d, before a large audience. The performance as a whole was highly meritorious. The Latin salutatory was well delivered by C. N. Brainerd, of St. Albans. The "probable ancient" method of pronunciation was employed. The orations of Brainerd, Brooks, Northrup and Haig, and the literary conference by Tenny were well-conceived and entitled to especial praises. The class procured the services of Mrs. W. N. Oliver, soprano soloist of Grace Church, N. Y., to assist in the music of the occasion. Her singing gave great pleasure to the audience, and together with some performances by members of college, made the musical part of the exhibition very acceptable. An attempt by a few of the students to interrupt the exercises by the distribution of a "mock schedule" of the performance was promptly suppressed by the police.

A Naval Academy has been established by royal decree at Berlin. It is placed under a military director, and a staff officer, with the title of "First Officer of the Academy," has been appointed as his assistant. The professors are to consist of such officers and officials of the navy, teachers of the naval school, and "other learned men," as may be qualified and willing to undertake the duties for a fixed salary. The students are to be naval officers, but "only such officers shall be ordered to the academy for study as would justify the expectation, by their professional and moral conduct and their abilities and character, that they will use the opportunity which is offered them to complete their professional knowledge with real use to the service." Candidates must also have given evidence of constant intellectual activity" by a satisfactory preparation of certain tasks which are to be imposed yearly, and the Admiralty will select those who show the best qualifications in the performance of these tasks. At the same time all naval officers will be admitted to certain lectures as volunteer students, so far as the local circumstances of the academy and the service on which the officers are employed will permit. The period of study is two years; the lectures will begin in October and terminate at the end of June. During the three remaining months the students are to be exercised in practical seamanship.

Hillsdale College, (Hillsdale, Mich.)—The following information in reference to this institution is taken from a circular issued by the college: "The College building is a fine brick structure, two hundred and sixty-two feet in length, and four stories high, exclusive of the basement. The grounds surrounding it are ample, and well laid out. It is sufficiently near to the business portion of the

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city to accommodate students in all matters which may legitimately call them there, and yet is so far removed as to secure that quiet which is essential to the successful prosecution of study. The Institution was chartered February 9th, 1855, and is under the control of the Free-will Baptist Denomination. At the last meeting of the Trustees, Rev. Daniel M. Graham, D.D., was elected President, and has associated with him a full and competent Faculty. Since its opening, which was November 7th, 1855, the College has sent out 229 graduates, and has had in attendance about 3,500 under-graduates. The last catalogue shows an attendance from 16 different States, besides the District of Columbia and the Canadas, and an annual attendance of from 600 to 800. The expenses are always low, and in the Theological Department, tuition is free. All students have free use of the Library. The Commercial Department occupies several fine apartments in the college building, and affords ample facilities for pursuing full Commercial, Telegraphic and Penmanship Courses. Information relative to this department may be obtained by addressing Alexander C. Rideout, Principal. The facilities in the Art Department under the tuition of Geo. B. Gardner, are not excelled by any institution in the State. Instrumental and Vocal Music are taught by Prof. Melville W. Chase. There are five well sustained Literary Societies, which contribute to the culture of their members, and afford many instructive and interesting occasions for others."

Columbia College, (New York City.)—We learn from the *Independent* that Dr. John Torrey's herbarium at Columbia College is soon to receive an overwhelming accession by the addition of the herbarium of C. F. Meissner, professor of botany in the University of Basle. The collection embraces no less than 63,000 species, which, when added to the 40,000 of the Torrey collection, will form the largest herbarium in America. Its purchase and presentation to Columbia College has been made by the liberality of John J. Crook, Esq., of New York City, a gentleman of mercantile pursuits, but of true scientific taste and culture and a thorough amateur of natural history in the branches of conchology and botany. This herbarium has special interest to American botanists, and very properly finds this destintion, from the fact that it is peculiarly rich in South American plants. Dr. Meissner elaborated the orders *Ericaceæ*, *Lauraceæ* and *Hernandiaceæ* for the great work "*Flora Brasiliensis*" of Von Martius. The specimens, therefore, of these orders preserved in his herbarium are not only the most complete of all collections, but authentic and historical. Dr. Meissner is also author of the orders, *Polygonaceæ*, *Proteaceæ*, *Thymeleæaceæ*, *Lauraceæ*, and *Hernandiaceæ* in the "*Prodromus*" of De Candalle, so that we may expect also to find in this herbarium the fullest and most valuable sets of these orders in existence. The venerable and learned Professor was induced to part with the collection, which has been the work of his life, only in view of increasing years and infirmities, and for the purpose of insuring its integrity for the future. The greater part of the collection will be forwarded at once from Basle; a certain portion, embracing departments in which he continues to work, will be retained by the Doctor during his life.

Oxford University, (Oxford, Eng.)—An Oxford correspondent writes: An abstract of the account of the receipts and payments of the curators of the university chest in respect of the general fund of the university, commencing July 16, 1870, and ending July 15, 1871, has been published, and affords some interesting information on the revenues of the university and their disposal. The balance sheet deals with a sum of £48,054 8s. 6d. as receipts, but of this only £34,940 comes under the head of ordinary receipts, the balance being nearly made up of the sale of stock, which realized £10,750 10s. 4d. The estates of the university, included in the above, produced a rental of £12,769 2s. 10d.; dividends on stock, £2,086 2s. 2d.; receipts for dues and fees for 1870-71, £18,066 8s. 6d., among the latter sum being included £387 7s. 6d. for dues from unattached students and migration fees from unattached students. Among other sources of revenue the "market" produced the university £447 16s. 9d. during the above period; proctorial fines, £246; wine licenses, £215; University Press, £1,037, etc. The payments during a corresponding period give a total of £25,843 11s. 5d. for ordinary payments, and £22,210 17s 1d. as the total of extraordinary payments. The stipends to officers amount to £3,735 19s. 1d.; to examiners, £2,397 11s. 9d.; to professors, £4,416 15s.; and there are the following payments to institutions, etc.: St. Mary's £195 9s.; Preachers, £317 os. 1d.; Bodleian Library, £3,615; Ashmolean Museum, £3 18s. 11d.; Botanic Garden, £242; the University Museum, £1,837 10s. 7d.; the Park and Public Walks, £399 1s. 3d.; Delegacy of Lodging-houses, £293 2s. 4d.; ditto Unattached Students, £486 8. 2d. The payment under the head of police of £2,123 9s. 5d. includes University police £956 16s. 1d., and Oxford joint police with the City, £1,166 13s. 4d.; quit rents, rates, and taxes come to £405 14s. 6d.; expenses on estates, £2,498 15s. 5d., pensions and annuties, £918 15s. 4d.; and printing expenses (including the *University Gazette*, £750 7s. 9d.) £1,291, 13s. 5d. The figures are vouched for by the University auditors, Messrs. O. Ogle, L. J. Lee, and J. E. Henderson.

Yale College, (New Haven, Conn.) We are unable to announce the names of the candidates for the alumni members of the Corporation, as we hoped we should be able to do this week, and for the simple reason that the list has not yet been made out. Meanwhile although the time for nominations is past, we give the tickets which come under our observation, as indications of the drift of opinion. The following list has been recommended by the executive committee of the Yale Alumni Association of Boston. Hon. W. A. Buckingham, LL. D., 1866), Norwich, Conn., Joseph E. Sheffield, (A. M. 1871,) New Haven, Conn., Hon. W. W. Hoppin, 1828, Providence, R. I. Hon. William M. Evarts, (1837,) New York, Hon. Dwight Foster, (1848,) Boston. Alexander H. Stevens, (1854,) New York.

We are glad to announce that Mr. Moses W. Lyon, of New York City, Class of 1846. who for three years past has given $1,000 a year to found scholarships for the help of indigent students, has just given another thousand dollars for the same purpose. This makes a scholarship in each class in the academical department, founded by Mr. Lyon. We are also happy to say that Mr. Wm. Walter Phelps, class of 1860, has just given $600 to the college library to be expended in the purchase of books in the English department.

Professor Weir delivered the first of his course of lecturers on "The Principles and Means of Art" last Monday evening. This lecture was principally devoted to the principles of art, and was an able and philosophic discussion. The audience was of good size and attentive. This course of lectures following so closely upon the course of Professor Eaton, and the recent exhibition of the drawings of the students under Prof. Niemeyer, shows an activity in this department of the University that is worthy of all commendation. As we have said two or three times previously, the Art School is now in the hands of gentlemen who are endeavoring to make it in reality what it is in name, a school for the cultivation and study of the Fine Arts.

Last Sunday afternoon was the first trial of the new freedom of the students in refereuce to attendance upon divine worship. President Porter preached in the chapel to an audience of a little over a hundred persons of whom perhaps between twenty and thirty were students. Many of them went to church out in town while many took the liberty of doing as they chose. It is too early yet to form an opinion as to the success of the plan, but we have no fears that it will result disastrously.

The junior prize debate which was talked of last term as being under the charge of the faculty, came off last Saturday evening. There were seven speakers, and the prizes were carried off as follows. 1st Clarence W. Bowen, Brooklyn N. Y.; 2nd, Samuel J. Elder, Lawrence, Mass; and 3d, N. H. Burnham, New Haven. The question was "Is there danger of too much centralization of power in our government"? and the two former speakers took the negative and the latter the affirmative.

The expedition of students to Martha's Vineyard proves to have been a pleasure party as well as a scientific expedition. The party consisted of Hering, Johnson, Lindsley, Prudden, Russell, Wardwell, and Welling of S. S. S. '72, Hill S. S. S. '74, and P. Lindsley of New Haven, and the expedition is said to have been a success.

The Yale Athletic Association have their first meeting at Hamilton Park to-day. The following is announced as the probable order of the contests:

1st. Throwing the base ball, two throws allowed each person. 2d. Half Mile Race. 3d. Running high and running long jump. 4th. Hurdle Race 14 flights 150 yards. 5th. Three-legged race. 6th. Dash, 200 yards. 7th. Standing high and standing long jump. 8th. Bag race. 9th. Hurdle race, 14 flights 200 yards. 10th. Consolation Race for those who have not won a prize in any race.

In Base Ball matters it is said that the Harvards have been written to with reference to arranging a series. The University Nine opened play last Saturday at the Park, and an arrangement has been made with Mr. Ives, proprietor at the park by which the exclusive use for the coming year of the ball ground, on condition of keeping the same in order, is granted to the club.

The first White Cup, given by Mr. White will be rowed for to-day. The race is to be up the Quinnipiac, one mile and a half and return.

A change has been made in the editors of the *Yale Courant*. Mr. Lines retires and Mr. H. W. B. Howard takes his place. The change is made because Mr. Lines has injured his health by over work and needs rest, and also because, being class orator and historian he needs the time to prepare for the duties of class day. By the change the *Courant* loses a good man and gets a good man.

Mr. Tanaka, Japanese commissioner of Education and member of the Embassy, who is visiting the educational institutions of the country spent two or three days at the beginning of this week inspecting the various departments of Yale.

The New Haven West Association of Congregational Ministers which held its annual meeting in this city on Tuesday, April 30th, examined and recomended as candidates for the Gospel ministry the following 22 members of the Theological Department in Yale College: Richard A. Rice, B. A. (Yale,'68), of the Senior Class; Augustine Barnam, B. A. (Oberlin College); George L. Beach, B. A. (Oberlin College); John S. Chandler, B. A. (Yale,'70), Roswell Chapin, B. A. (Oberlin College); Truman D. Childs, B. A. (Oberlin College); George W. Chrystie, B. A. (Beloit College); Quincy L. Dowd, B. A. (Oberlin College); Charles N. Fitch, B. A. (Oberlin College); Franklin S. Fitch, B. A. (Oberlin College); Henry L. Griffin, B. A. (Williams College); Wm. D. Hart, B. A. (Oberlin College); Fredrick S. Hayden, B. A. (Yale,'69); Henry E. Hutchins, B. A. (Yale,'70); George C. Lamb, (Westfield College); Theodore P. Prudden, B. A. (Yale,'69); John A. Roberts (Bala College); Wm. E. Safford, B. A. (Oberlin College); Edward P. Salmon (Beloit College); Wm. P. Sprague, B. A. (Amherst College); Robert B. Stimson (Wabash College); John Thomas, (Bala College). Rev. Henry N. Day, D. D. is Moderator of the Association for the present year, and Rev. S. W. Barnum is Scribe.

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YALE PERSONALS.

'22, TODD.—Rev. John Todd, D.D., has announced to his people (1st Congregational church, Pittsfield, Mass.) that, in accordance with medical advice, he must immediately cease preaching, instead of continuing, as he had hoped, through the year.

'38, STRONG.—Rev. Edward Strong, D.D., of Pittsfield, Mass., accepts his recent call to the Congregational church at West Roxbury, Mass.

'44, CHAPIN.—Rev. Nathan C. Chapin, who has been in charge of the Congregational church at La Crosse, Wis., has resigned his position.

'53, WHITON.—The salary of Rev. James M. Whiton, pastor of the North Congregational church, Linn, Mass., has been increased to $3000.

'53, HEDGES.—Cornelius Hedges, who is practicing law in Helena, Montana Territory, has been appointed Superintendent of Public Instruction in that territory.

'66, MEAD.—H. B. Mead has recently become father to a fine boy baby.

'70,—The following is a list of the class of '70 in New York and vicinity:

ALLIS, Law Student. Clarendon Hotel 4th Ave. and 18th street.
BEACH, Law Student 222 West 25th street.
BEVIN, Business, 226 East 10th street.
BUCK, Law Office, 46 West 29th street.
BURR, Law Student, 63 S. Portland Ave. Brooklyn.
CHADWICK, Commission Business with Arnold and Banning, 56 Lispenard street.
F. S. CHASE, Law Student, 43 St. Marks Place.
G. CHASE Law Student and Teacher, 14 East 9th street.
COY, Teacher, 33 Grand street, Jersey City.
CRANE, Law Student 43 St. Marks Place.
CURRAN, Law Student 18 West 21st street.
DEFOREST, L.L.B. Law Office 15 West 30th street and 58 Wall street.
DODGE, Lumber Business 225 Madison Ave.
FIERO, Law with Beebe Donohue & Co., 68 Wall street.
GOULD, Law Student, 5 East 24th street.
GRIFFITH, Bank cor. Beckman and Nassau streets or Flushing, L. I.
GRINNELL, Broker, Washington Heights and 36 Broad street.
JENKINS, Law Student, Residence Boonton, N. J.
R. KELLY, Law, 9 West 15th st.
KENDALL, Medical College, 4th Ave. cor. 23d street and 242 East 119th street.
LOGAN, Law Clerk 28 Waverly Place or 66 Wall street.
LORD, Broker, 34 West 28th st. or 59 Liberty street.
MCCUTCHEN, Law Student, 17 Lafayette Place.
MILLER, Business, 17 Lafayette Place.
NICHOLSON, Law Student, 18 West 21st street.
PALMER, Shipping business, 34 Burling Slip.
PERKINS, Business, 130 Church St. or 42 West 46th St.
J. H. PERRY, Law Student, 17 Lafayette Place.
PETERS, Business, Box 1476.
RANDALL, Law and Teacher, 96 Fort. Greene Place Brooklyn.
RILEY, Editor, cor. Fulton and Church or 344 West 22nd St.
SCHELL, Law Office, 53 Clinton Place.
SHATTUCK, Dry Goods Com. Mer. 104 Franklin St. or 66 Irving Place.
TILNEY, Law Student, 114 Montague St. Brooklyn.
JOE COFFIN and ERIC TERRY, are at Irvington, N. Y.
CAREY and MCCLURE are in Princeton Theological Seminary, N. J.
JACKSON, Law Office, Newark, N. J.
BETTS, Teacher, Stamford, Conn.

GLEANINGS.

PERSONAL.

Dr. J. M. DaCosta has been elected professor of the theory and practice of medicine in Jefferson Medical College at Philadelphia.

The Ann Arbor *Courier* says that there is hope that Dr. Crosby may be again secured for the Professorship of Surgery in the Medical Department.

— Professor Huxley has returned from his visit to Egypt, in greatly recuperated health, and has resumed his lectures at the government school of mines.

— Dr. Kendrick, of Rochester, has been added to the list of Bible revisers. This gives the Baptists three of the best scholars in the list—Drs. Conant, Hackett, and Kendrick.

The Rev. G. F. Price has been elected to and has accepted the Presidency of the Huntsville Female College, Ala., to fill the vacancy caused by the resignation of Rev. J. G. Wilson, D. D.

— Henry R. Pierson, a director of the New York Central and Hudson River Railroad, was elected regent of the University of the State of New York at the annual joint convention of the legislature on April 24.

— President Chadbourne does not assume his duties at Williams College until after the next commencement, being engaged at Bowdoin College until that time. Dr. Hopkins delivers his farewell baccalaureate sermon at the coming commencement.

— A meeting of the Trustees of the New England Female Medical College was recently held in Boston and a series of resolutions expressive of esteem and regret in reference to the recent death of Dr. Gregory was passed. A committee was also appointed with power to procure and place within the college building a suitable tablet inscribed to the memory of Dr. Gregory.

— The Strasburg catalogue of university lectures for the Summer of 1872, includes Prof. Max Muller's name as lecturer on comparative linguistics. The announcement has occasioned surprise, because it was universally reported that Mr. Max Muller had refused to lecture at Strasburg. It is now announced on good authority that he will read for two years provisionally, and determine after their expiration if he will make a permanent engagement.

Professor Young of Dartmouth College, during the summer vacation will take his telescope and spectroscope to Sherman, on the Pacific railroad, and see what advantages can be gained by observations in the light air, 8000 feet above the sea. The expedition is under the charge of the United States coast survey, and the government pays the expenses. It is expected that the results will add much to the stock of information already gained by means of the spectroscope.

Prof. D. H. Wheeler of the North Western University, who shortly after the great Chicago fire commenced making experiments in restoring defaced writing and printing, has discovered an original process for restoring charred currency, so that it will answer every purpose of the owner or loser. His success in this has been so great that General Spinner, U. S. Treasurer, has ordered that when the experts of the departments fail to make bonds or currency legible they be referred to Prof. Wheeler.

COLLEGE.

— Racine College posseses a German bell-ringer who knows the Greek poets off by heart.

— The University of Strasbourg was opened last Wednesday with appropriate ceremonies.

— The German Philological Congress is announced to take place at Leipzig at the latter end of May.

— A Japanese law student, named Codama was baptised last Sunday, in the Metropolitan church, Washington. He assumed the Christian name of John Phillips.

— Governor Washburn of Mass. has declined an invitation to deliver the annual address before the society of inquiry of Andover Theological Seminary, at the University in June.

— Owing to the comprehensive preparations which have become indispensable for the celebration of the university quarto centenary at Munich, that festival has been put off from June to August.

— At the recent anniversary exercises of the Western Theological Seminary, at Alleghany City, Penn., the corner stone of a new fire proof building for the use of the library, was laid with appropriate ceremonies.

— The formal opening of the Kentucky Public Library, took place in Louisville. on Saturday, with appropriate ceremonies. The Library rooms were visited by thousands of persons. The shelves contain 20,000 volumes.

— Prince Tanaka, commissioner of education and member of the Japanese embassy, visited Amherst College on Tuesday morning of last week. He attended prayers in the company of Professor J. H. Seelye, and manifested much interest in the exercises.

— The *Pacific Christian Advocate* states that increased prosperity attends the Willamette University. During the past term the number of students enrolled was two hundred and twenty one—a larger number, it is said, than ever reported for any previous term in the history of the institution.

— The new Theological Seminary in San Francisco, is fully organized, and is under the special care of the Synod of the Pacific of the Presbyterian Church, but is open to students of all denominations of Christians. The plan of the Seminary is, as nearly as it can be made, according to the plan of the Princeton Seminary.

— Drew Theological Seminary has now as many students as, with its present buildings, it can accommodate. It has an endowment fund, which furnishes an income of $17,000. This has, so far, been sufficient. The necessary expenses of each student are about $200 a year. There are one hundred students at the Seminary.

— The late Quincy Tufts leaves by his will $10,000 to Harvard College for the education of indigent students; $2,000 to Amherst College, and $2,000 to Atkinson, N. H. Academy, for a like purpose; $10,000 to the town of Weymouth for a free library, lectures, etc.; $10,000 to the Massachusetts General Hospital for free beds, and some $40,000 to be distributed among city charitable institutions.

— The Junior Exhibition of the University of Pennsylvania, at Philadelphia, was held last Saturday. The following was the programme: "President's Salutatory," Coleman Sellers, Jr.; "True Manhood," Henry Pleasants, Jr.; "Per Angusta ad Augusta," class motto, Wm. Boyd, Jr.; "Modern Patriotism," W. Wilkins Carr; "A Lesson of History," Alfred Lee, Jr.; "Despair of Mental Culture," Randall Morgan.

— The Detroit Medical College whose advertisement appears in another column and which has hitherto held its regular session, in the Spring and Summer months, has changed its annual programme and will hold its regular term of instruction hereafter in the Autumn and Winter. There are several hospitals connected with the college and it has besides other advantages which will be appreciated by medical students.

— At the opening of the Spring term of Dartmouth College, recently, the whole of one class was suspended until its members should apologize for "cutting" the last recitation before recess. Two members of the senior class, for absenting themselves before the proper time, after the faculty had refused to excuse them, were separated for an indefinite time. Several others for grosser misdemeanors have been suspended or expelled.

— The Mount Holyoke female seminary catalogue for 1871-72 contains the names of 29 teachers and 274 pupils, the different classes number as follows: Senior 24, senior middle 40, junior middle 74, junior 118. The public examinations at the close of the present school year will begin on Tuesday, July 2, and the aniversary exercises will come on the 4th of July, when Rev. Dr. H. D. Kitchel, president of Middlebury college, will address the graduates.

— Dr. Penniman, formerly of Minneapolis, and lately deceased, has left by his will $10,000 for the endowment of a professorship of Homeopathy in the University of Minnesota. He also leaves $30,000 to found a hospital in his city, conditioned upon the raising by other parties of $70,000 additional within fourteen years. Meantime the $30,000 lie in the bank drawing interest at 7 per cent., which goes to augment the $10,000 fund for the endowment of the professorship.

— It has been decided that women shall be admitted to the medical lectures at the University of Helsingfors Russia free of charge, and to the anatomical lectures in the laboratory at a moderate charge, to be fixed by the lecturer. The lectures are to held in Swedish. No examination will be required, but the female students must produce credentials attesting previous good conduct. No examination may be passed and no diploma can be given at the end of the course except in special cases.

—At the opening of the Cornell University recently two young ladies, taking advantage of the recent resolution of the trustess to admit young women on the same terms as young men, presented themselves for examination. Their names are Miss Emma S. Eastman, of Worcester, Mass., a former student of Vassar College, and Miss Sophie B. Fleming, of Ithaca, New York. It is said that they passed the examinations in a manner highly creditable both to themselves and to the University. Both of them entered the Junior class, registering themselves for an elective course, which is nearly identical with the course in letters.

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It gives me much pleasure to testify of the success attending the study of vocal music in our school under the superior management of Prof. Jepson. Mr. J. is thoroughly qualified for his work, and enters into it with a zeal that is highly commendable. Not being satisfied, however, with what he has already done, he has conceived the idea of revising his "Elementary Music Reader," making a complete and easy gradation of exercises adapted to the wants of the younger as well as the older pupils. Mr. Jepson has already established an enviable reputation in New Haven as a teacher of vocal music, and his revised work, so admirably adapted to school use, will no doubt meet with a large sale.
GEO. R. BURTON, Prin. Wash. School, New Haven.

For several years I have had the opportunity of observing Prof. B. Jepsoh as a teacher of music in public schools, and more particularly in our own High School. In his department of instruction, I have never known his equal in securing early and valuable results. Whether his success has been mainly due to his own personal efficiency or to the peculiar features ot his system as comprised in his "Music Reader," I cannot tell; I only know that the training he gives is thorough and natural, and that his pupils early learn to sing with a rare degree of intelligence and self-reliance.
T. W. T. CURTIS, Principal of High School.

Mr. Jepson's work and methods in teaching music in the New Haven public schools is an undoubted success. I would cordially commend his books to the attention of all who have an interest in this study in schools.
JOHN G. LEWIS, Principal of Webster School.

It gives me great pleasure to recommend Prof. B. Jepson's system of music and vocal culture. At the time of its introduction I doubted the utility of teaching note singing in our large schools, but its perfect success has disarmed prejudice, and I should now regret any change which would deprive us of instruction so valuable. Very truly,
L. L. CAMP, Principal of Dwight School.

It gives me pleasure to recommend Prof. Jepson's "Music Reader" to any wishing a thorough course of instruction in music in their schools. The books are, as their title imports, a *series* of music readers *systematically* and *progressively* arranged for the use of all grades of pupils, from the Primary to the High School These readers have borne *most successfully* the best test of school books, namely. a daily use in classes for a term of years; and have been instrumental in convincing the most skeptical that all can be taught to read music with facility by the time that they are prepared for the High School.
JAMES D. WHITMORE, New Haven High School.

Every exercise which is undertaken in the school-room should be executed honestly and thoroughly. I have always regarded the "Elementary Vocal Drill" as the exercises of all others the most reluctant to conform to this rule. In overcoming the difficulties of the exercise, I have received more help from Mr. Jepson's system of elementary vocal drill than from any other.
JOSEPH GILE, Principal of Eaton School.

Prof. Jepson's Music Reader is, in my opinion, the most systematic and best adapted to school use, of any work of its kind now before the public. I have entertained a high opinion respecting its merits, since first seeing it in manuscript—*an opinion which its use in the school-room for several years has greatly strengthened.* Prof. Jepson is deserving of the praise which his highly meritorious work receives, and we cheerfully add our testimony to the above.
RALPH H. PARK, Principal of Eaton School.

"Jepson's Music Reader" has been used in the daily practice of vocal music in this school since its organization. The results have been, not only satisfactory, but wonderful. The system is such that children reading in the Primer or First Reader can learn to sing the scale, first by numeral, then by syllable, then simple melodies in different keys, and so on through the elements of music. The children in the Grammar Department are able to sing new music at sight in four parts. The time spent in the daily practice is from fifteen to twenty minutes.
H. C. DAVIS, Principal Skinner School.

Professor Jepson's method of teaching singing, as arranged in his "Elementary Music Reader," is of a *very superior order*, and in our schools will do everything that can be reasonably expected of a work of the kind.
RALPH G. HIBBARD, Professor of Elocution.

Mr. Benj. Jepson, the instructor of Vocal Music in the public schools of New Haven, has shown great tact and skill in teaching singing by note to even the youngest pupils in the schools of the city. His system has been long and thoroughly tested in New Haven, where it is now working admirably. Gen Eaton, National Commissioner of Education, and Gov. English, when visiting the schools of this city, expressed their surprise and gratification at hearing children in the primary schools sing *at sight* various exercises marked at the time on the blackboard. I should be glad to find the system which has here been so successful, generally adopted. Certainly, music should be taught in all our schools.
B. G. NORTHROP, Secretary State Board of Education.

I am familiar with Mr. B. Jepson's methods of instruction in singing as laid down in his "Elementary Music Reader," and as exemplified in his own practice. The "Reader," both in the earlier and later editions, has been used in our schools, and I am convinced that if the course there indicated be followed with tolerable energy and perseverance, the results will demonstrate the great value of the system and of the book.
H. E. SAWYER, Superintendent of Schools, Middletown, Ct.

I have been using "Jepson's Elementary Music Reader" for some months and am desirous of expressing my ever increasing satisfaction with it as a text book. Having been written by a gentleman who has had a large experience in this hitherto neglected but very important branch of education. it exactly meets the want felt in all schools, public or private, where music as a study is being introduced. The explanations are so simple, and the exercises so easy, progressive and attractive that the book commends itself to all who use it—and teachers with only a moderate knowledge of music will be able, by its use, to teach thoroughly and practically.
A. L. CURTISS, Teacher of Vocal Music, South District Schools, Hartford, Conn.

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D. P. CORBIN, Principal Asylum Hill Grammar School, Hartford, Conn.

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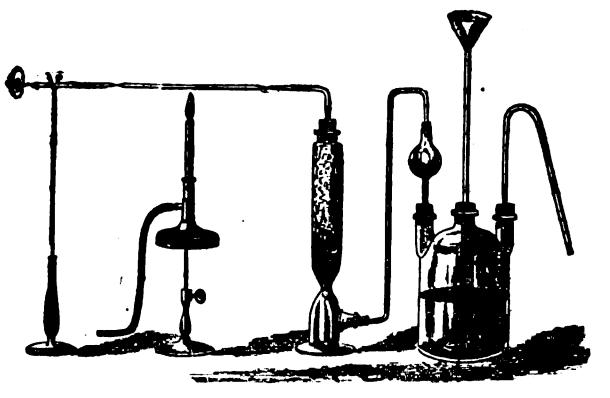

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, MAY 11, 1872. NUMBER 19.

MICHIGAN UNIVERSITY THROUGH YALE EYES.

BY SAMUEL W. DUFFIELD.

It has occurred to me that I would set down the characteristic differences between Yale and the University of Michigan. If I delay this until they lose the charm of novelty, or if I had attempted it before I felt thoroughly familiar with them I should certainly fail. I simply propose to give this paper as my contribution to a comparative anatomy of Colleges which may be of some possible advantage.

On thinking it all over, these salient points of divergence seem to consist:

1. In the "University" as opposed to the "College" idea—the one being essentially Western and the other Eastern.
2. In the religous theory of the institution.
3. In the various courses of study.
4. In methods of instruction.
5. In the State Board of Regents as opposed to a Corporation.
6. In the class of students who receive tuition and in their associations and college feeling.

I. The idea of the University of Michigan allows the High School to expand into the collegiate course. The University chapel is seated with desks like a school-room. There is no marking system either for attendance or prayers, or for grade in recitation. But the professors are empowered to take their own measures to secure order and punctuality in their several departments.

Remembering Yale I was almost amused at the buzz of freedom before the chapel exercises commenced, and agreeably disappointed when I found them absolutely inspiring and effective. So too, the professor of mental and moral philosophy is an admirer of the black board and employes it in a secular and familiar way, bringing the high mysteries nearer and dissapating with sharp and severe light, the obscurity of celebrated names. There is a vast amount of iconoclasm in this and other lecture-rooms. And the atmosphere is that of a higher High School of the Western type.

There are six full courses of four years in the Academic Department and two shorter ones for special study. This undoubtedly breaks up class-feeling as I shall have occasion to notice. And indeed any person can enter the University and study what he or she may please, during not less than one semester or half the college year. Independence produced these *strata* of studies, and independence is fostered by them. There is from the first a development of individualism which is well-marked and noticeable in thought and character. Thus the University really lays down no fixed plan or line of procedure, but invites any and every one who can pass a preliminary examination to do so and then to elect whatever branches are most attractive. Where "optionals" at Yale are the exception, they are here the almost unvarying rule.

The same democratic idea runs through the whole institution. To a degree there is a reservation of authority in the hands of the Faculty but their intercourse with the students is free and unrestrained, and there is a great deal more reliance placed upon an *esprit du corps* than upon stringent regulations. I often wonder how the spirit of some of these intelligent and able-bodied youths can be proof against certain admirable opportunities for strategic situations and unpremeditated "rushes," but that they do conduct themselves with fortitude under temptation, I am bound to state. I question if, in a case which I noticed the other day, the class of 1863 in Yale could have been able to avoid falling from grace.

As a veracious chronicler of actual differences I cannot conceal from myself that in the use of the library, in general conduct, and in mental grasp these University of Michigan students are worthy of decided praise. The female element has been written up and down a great deal but it positively seems to make no change one way or the other. I attended a recitation a few weeks since where a lady gave a most brilliant translation and backed it up with some remarkably accurate syntax. Another lady was "fair to middling" and the men generally made decided "rushes" or respectable "fizzles." Once I thought this "University idea" would come to nothing. I am somewhat inclined at present, to the other side. I heard some of "the boys" talking a while ago of an attempt at "flirting" which had been ignominiously snubbed and they seemed to enjoy it as though it were a good joke. I do not deny that to have a lady classmate appears rather a pleasant thing but except at lectures or concerts I seldom see them going

"Never but two together."

A lady law-student was applauded when she entered a crowded students' gathering the other night but it was not a disrespectful noise. The lady "medics" have separate instruction.

II. The religious theory differs again from that of Yale. We at Yale were under orthodox Congregational control, bound to go to chapel and to prayers or to get "letters home" and be upon a "course of discipline." Here the attendance at prayers, which—peace to the ghosts of departed buckwheat cakes,—are at a quarter past nine o'clock, is entirely voluntary. Sunday afternoon has been occupied by a series of anti-skeptical lectures but students attend church wherever they please. The churches and the University Christian Association meetings do not conflict at all. And this Association does more active work than *used* to be done at Yale.

While there is nothing to *make* it so the tendency of the University is religious and evangelical. President Angell is occasionally in the students' prayer-meetings. He is altogether a very unpretending and executive dignitary whose influence depends to a large extent upon his personal popularity. Another man in his important position hereafter *might* counteract much of his predecessors' lofty purpose.

Instead of the compact and perhaps slightly repellant religious life of Yale there is a breadth which goes nearly to the other verge. Publications of hardly disguised infidel intent have been allowed upon the tables of the reading-room upon a principle of fair play which is as manly as it is uncommon. Speaking now as a minister and from the minister's side I candidly believe that this has had no bad result. Thought has been awakened and it has required a supply of facts and arguments—that is all, and that is far from bad.

In the middle of the winter I wrote a short article for the *New York Evangelist* designing to free the University from a stigma of infidelity which had been fixed upon it. The article stated that the "Radicals" of college were few in number, were generally such through improper early education, and were all in the Law and Medical Departments. To this, when it was copied into the *Detroit Tribune*, the President of that society replied; but even in his desire to make out a good case he did not break down any of my statements and even emphasized them by showing an honorable fairness at which no lover of truth for truth's sake could ever be offended. Consequently I let the two communications remain without further comment. Such a thing as an absolute hatred of religion *may* exist in the hearts of a very few but they cannot live openly in this air of free, unsectarian inquiry. Our churches, for there is no college church, continually receive to active membership, the best minds of the University; and I saw a list the other day in which were the names of about a third of the present Senior class as certainly or probably destined for the ministry. And they will make the kind of ministers we need.

III. The various course of study in the Academic Department—for I am not writing of law, medicine and chemistry except as incidentals—are evidently different from Yale. The optionals at Yale have become the essentials at Michigan University. A cry has gone up from utilitarians for less Latin and Greek and more science. So the changes are rung on the various combinations of the regular classical course with the new features introduced to supply that want. Professors have said to me that without a "synchronistic table" the thing is 'a muddle' to them and I don't wonder at it. It is however the strict application of the University principle.

IV. The methods of instruction seem a little curious. To a Yale man, this sitting at desks, or reciting in a direct order from A to Z, or freedom in question and answer, is very prominent as a difference. But he is compelled to admit that it looks like work and *is* work. There can be no debate about the excellence of the teaching. I cannot bear the Continental Latin—which I suppose is another Yale prejudice—and in this I agree with President Angell, who half-comically begged his class to pardon him for "preferring the old way." I presume that while Professor Thacher lives alma mater will surely send forth those whose conservatism in this regard will continue to resemble that of St. Anthony's fishes.

Examinations are strict, as upon them (if I comprehend the system) the standing is based. But there are no "high oration" men nor does any one sink to a "colloquy." Junior exhibition this year entirely fell through. The class declined the expense, and the appointed men pocketed their empty honors. Whether it can be so with Commencement I do not profess to determine. The fact that the mere selection of speakers by a particular professor is the reason for their speaking shows how liable to trouble such public occasions can be made.

V. The various Departments of the University are surpervised by a Board of Regents elected by popular vote for a term of eight years. It would be idle to assert that incompetent men have not been in office under this arrangement; but the State takes pride in the personal fitness of candidates and like our Michigan Supreme Court, it has been kept remarkably pure. Their proceedings are always reported in the papers to the most minute items of business and the publicity of their position is a guarantee of their conduct. Some have already served long and well and have by careful and judicious counsel done much to advance the institution. I apprehend that our new plan of elections to the Corporation of Yale will have fully as wise an effect.

VI. The suppressed premise which has influenced the most of the conclusions hitherto stated is that of the character of the students who are here. They are often graduates of the western system of public schools, indoctrinated in habits of order, and drawn by the nearness and cheapness of the education which is offered. In this, as in other things, the University of Michigan carries out its theory. It is practically a great public school where the boys and girls are men and women and are expected to behave as such. I see few indications of the free use of money which marks Yale life. I see still fewer of that class whom we once called "bummers." The prevailing sentiment is that of strong desire to possess an

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education and to do good and thorough work. "Centleman's son's" in the eastern sense, are scarce. But the wave of culture and refinement is overrunning all this region and the next generation will be materially different.

There is no doubt that, interchanged, Yale and Michigan University would experience equal difficulties. Each practices to its case and to its class of students. But I notice that where the class-feeling of Yale and the very fellowship of a common graduation bind men together, it is far otherwise here. There are surrounding this institution, as far as I know, no alumni associations. The general organization and another in the Law Department lately founded, comprise all of which I am informed. Class-feeling is merged into society friendships. A very few of the same year and the same society may be drawn into close and familiar intercourse, but it is not commonly so throughout the class. This, which is the crown of our Yale training—hard to win but sure to stay—is absent. I cannot attribute it to anything but that obliteration of distinctive lines necessary in this system. I know that much of it was due with us to the measure which we took of each other when, after the fashion of Yale, we were cast back upon ourselves. And still, had there even been this Michigan freedom of intercourse between professors and tutors and undergraduates I do not think we should ever have failed to acquire the deep love for the class and the college whose we were. There was a unity of interests which would always induce it.

It must be a very decided advantage of education which shall supply in any college the loss of this best of the humanities. I have only tried to tell honestly what I have seen and heard and felt here. The University is accomplishing much and will accomplish more, but I am not ready yet, in spite of many favorable facts, to transform Yale into such another and to look hopefully for the time when

"Sweet girl-graduates in their golden hair,"

shall issue from the bug-haunted precincts of old South Middle. Here, it may do. There is no domitory system—there is no talk of "Commons"—and all the girl-graduates" whom I have seen were unmistakable brunetts, and some were married women of a very certain age.

THE SUN'S CORONA.

BY PROF. C. A. YOUNG, PH. D., DARTMOUTH.

[The following in reference to the Corona of the Sun is the concluding portion of the University Scientific Series Pamphlet No VIII, which will soon be issued by C. C. Chatfield & Co. The Pamphlet is entitled "The Sun and the Phenomona of its Atmosphere" and is written by Professor Young of Dartmouth.]

From immemorial antiquity this magnificent spectacle has been well known and enthusiastically described; and it is beautiful and impressive exceedingly, almost beyond the conception of those who have not seen it for themselves.

If on such an occasion the sky is clear, the moon appears of almost inky blackness, excepting a little diffuse light around the limb—just enough to bring out her rotundity in the most striking manner; and close around her outline lies a ring of pearly greenish light of almost dazzling brilliance at its inner edge, where it contrasts with the still more brilliant prominences, which blaze like burning rubies; it gradually fades out towards its outer limit at a distance of from ¼ to ½ the moon's diameter, and is terminated by an irregular and very indefinite boundary, which is usually roughly quadrangular, with its diagonals crossing the sun's equator at an angle of about 45°. It is always distinctly radiant in its structure, made up of filaments which stand nearly perpendicular to the surface of the sun, and yet in many places are strangely curved and intertwined.

For the sake of distinction this may be called the "inner-corona"—but it is by no means the whole phenomenon.

Often, perhaps always, long beams and rays of delicately colored light are seen extending to a much greater distance—not unfrequently twice the moon's diameter—and certain dark rifts or gaps reach outward from the very body of the moon to an equal distance through the faint, but pretty extensive luminosity which surrounds her.

Photography has secured a most beautiful record of the inner corona in the remarkable picture obtained by Professor Winlock's party of the eclipse of 1869: in this respect neither of the pictures of the eclipse of 1870 can compare with it, but the photograph of Mr. Brothers in Sicily, shows more of the diffuse light, and gives some idea of the appearance of the rifts. Whether the photographs obtained in India last December are superior, we have yet to learn, but as the weather was favorable we have everything to hope.

As to the cause of these phenomena there has been great discussion, and even yet the problem is only solved in part. Some have held that the corona is merely the sunlight streaming out from behind the moon, others that it is formed by a lunar atmosphere; some that it is formed in our own air, and some that it is at the sun—a phenomenon of the solar atmosphere; and finally most astronomers believe, I might say *know*, as *things* now stand, that it is a composite phenomenon, of which a part is certainly solar, a part terrestrial, and a part of origin as yet uncertain.

That the inner corona is a solar envelope was first demonstrated at the eclipse of 1869, and by the spectroscope. In 1868 attention was concentrated upon the prominences, and although the bright line of the corona spectrum appears to have been really seen by Pogson and Rayet it was not recognized as coronal, and the result announced was not such as to lead to any definite conclusion.

In 1869 especial attention was paid to the corona, and two of the American observers found that its spectrum was characterized by a brilliant green line: this line*, the now somewhat famous 1474, is precisely coincident with a distinct, but inconspicuous dark line in the solar spectrum marked by Kirchoff and also by Angstrom as due to iron. One of the observers saw also two other faint lines which he thought might be, and probably were, coronal—an observation since only partially confirmed.

But considered as a demonstration of self-luminosity one line is as conclusive as a thousand, and it is easy to see that any self-luminous corona must be solar.

Accordingly those who denied the possibility of any extensive atmosphere above the chromosphere, received the observation with great suspicion; but in 1870, and again last December, the observation was fully verified, and so far as the inner corona is concerned the question may be considered as settled. Indeed the observations of last December have shown conclusively, that hydrogen is also an essential constituent of this *coronal atmosphere*, as Janssen proposes to call it—hydrogen at a lower temperature and density of course than in the chromosphere. This fact was most beautifully brought out by a new mode of observation employed for the first time at the last eclipse by Lockyer and Respighi. It consists simply in looking at the eclipsed sun through a prism, either with or without a telescope—better *with* however, as was the case with Respighi. What he saw was this: Three exquisite rings, one in the red corresponding to the C line, one in the green corresponding to 1474, and one in the blue, corresponding to F. Of these the green ring was the brightest, the largest and the best defined, attaining about 7′ of elevation; the red ring was nearly as bright and large, but the blue was smaller and fainter.

The observations of Janssen agree with these in indicating the presence of hydrogen, and he was so fortunate as to catch glimpses of some of the dark lines of the solar spectrum in the coronal light, an observation which goes far to show that in the upper atmosphere of the sun there are also solid or liquid particles which reflect the sunlight from below, like smoke or cloud.

But while it is thus settled that the inner corona is really solar, many problems with reference to it remain unsolved.

The first relates to the nature of the substance which produces the 1474 line. In respect to this there is a good deal of difference of opinion. Since the line coincides with a line in the spectrum of iron, many, perhaps most, astronomers consider it due to that metal: but in this case we must suppose either that iron-vapor is less dense than hydrogen gas, or that it is subject to some peculiar solar repulsion which maintains it at its elevation, or else that some kind of atmosphere as light as hydrogen, is full of iron dust, between the particles of which pass electric discharges that develope this line.

Still considering that this line is one of the least conspicuous in the spectrum of iron, that it is the shortest of the iron lines, and that none of the many hundred others are found associated with it in this corona spectrum, it seems more natural to assume at once that it is due to some new kind of matter, in which view Mr. Lockyer and many other high authorities concur.

Another problem, and perhaps the most perplexing of all, is the reconciliation of the strangely discordant observations upon the polarization of the coronal light: observers of equal skill, sometimes even the same observer at different times or with different instruments, obtain results whose flat contradictoriness, as interpreted by our present optical knowledge, is almost comical; Thus at the last eclipse, while Mr. Lockyer and Dr. Thompson found only a vertical polarization covering everything, Captain Tupman and Mr. Lewis found it as strongly radial. Undoubtedly the key to these discrepancies will in time be found either in the peculiar atmospheric conditions of the observers' stations, or in the instruments employed, but until they are explained very little use can safely be made of the results.

Our knowledge as to the nature and constitution of the outer corona, the assemblage of dark rifts and bright rays which overlies and surrounds the inner corona, is still less complete. It is not even certain that it is solar at all, though I think astronomers generally consider it so, in the main at least. A few authorities of high repute I suppose still believe it to be caused by some action of our atmosphere, and others suppose it due to cosmical dust between us and the moon.

Although at the time of the middle of the eclipse the observer is so deeply immersed in the lunar shadow that no illumination of the air by real sunshine can

* As there has been some misconception and mis-statement in regard to this matter, perhaps I may be permitted to put it right.

Only two observers saw and recognized this line as belonging to the spectrum of the corona, Professor Harkness and myself. Professor Pickering saw it, but his instrument, what would now be called an *integrating* spectroscope and unconnected with any telescope, gave no means of determining whether any particular line in the spectrum was due to the prominences or to the corona: the fact that he saw it however, and that in that form of instrument it was the brightest of all the lines seen, was of the highest importance in proving it to be truly coronal.

Professor Van Vleck also saw the line, but recognized no difference between it and the other lines as to origin.

So far as I can learn neither Professor Winlock nor Dr. Peters recognized its character, if they saw it at all. I know of no other spectroscopic observations of that eclipse.

As to its position, Prof. Harkness with his one-prism instrument determined its place, at 1497 of Kirchoff's scale—a very creditable approximation for such an instrument.

My own instrument had five prisms, and on account of the large size of its collimator and telescope possessed probably full eight times the dispersive power of the other. I had discovered the 1474 line to be occasionally bright in the chrosmosphere spectrum nearly a month previously (Mr. Lockyer saw it before me however), and naturally enough was observing it a few minutes before the totality, when it was already plainly reversed; so that I needed no measurements to give me its position on finding it in the corona spectrum.

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possibly affect the sky in the moon's neighborhood, yet of course the bright light of the inner corona (which several times exceeds that of the full moon), as well as that from the prominences, must cause a certain amount of "atmospheric glare;" and although it is difficult to see how this is to account for the rays and rifts, it might be rash to deny that it may do so in some manner yet to be discovered. It is quite certain that some of the phenomena observed just at the beginning and end of totality are really caused by it.

So also a light haze of meteoric dust between us and the moon would give results much resembling those observed. The inequalities of the moon's limb would cause the outer surface of the moon's conical shadow to be not smooth, but channeled or furrowed, and that most distinctly near the moon itself. Still when we come to details the theory seems to break down, and I do not think is now considered tenable.

If the rays and rifts are really atmospheric or even cislunar, it would hardly be possible that they should present the same appearance at different stations along the line of totality: indeed they would probably change their appearance every moment, even at the same station, and some observers contend that this is really the case, though the general impression is the other way.

But it is almost universally admitted that proof of the invariability of these markings, and especially of their identity as seen at widely separated stations, would amount to a demonstration of their solar nature. It is found, however, that eye-sketches cannot safely be depended upon. The time is so short that accurate measurements are impossible, and the excitement of the occasion is so great that even the most faithful artist projects his own personality into his picture to a surprising degree. The drawings made by persons standing side by side differ to an extent that is sometimes really ludicrous, and has induced more than one astronomer who had not himself seen an eclipse, but judged only from the written accounts and sketches, to declare his belief that this whole outer corona is a merely subjective phenomenon, simply the result of the observer's imagination, or to put it in Saxon, "all in his eye."

Hence the importance attached to photographs. These undoubtedly fail as yet to catch many of the faint markings and delicate details visible to the human eye, but their testimony, as far as it goes, is unimpeachable.

Up to 1869 no photograph of the corona had ever been obtained. I have already referred to the beautiful picture of that year's eclipse, taken by Mr. Whipple, under Prof. Winlock's direction, but even this shows almost nothing of the outer corona, and there were no other pictures to compare with it. The interest was then mainly centred in the prominences and most of the photographic apparatus was arranged accordingly.

In 1870 in Spain, Lord Lindsay's party at Santa Maria, and Prof. Winlock's party close by, at Jerez, and in Sicily, Mr. Brothers at Syracuse, all obtained pictures, which though somewhat defective on account of the unsatisfactory condition of the weather, still show something of the outer corona; one deep rift especially, which seemed to cut down through both the outer and the inner corona clear to the limb of the moon, and was to the naked eye one of the most conspicuous features of the eclipse, appears unmistakably the same in all, marked by two small prominences on the edge of the sun just at its point. Many other points of detail also come out identical in the Spanish and Sicilian pictures —with, it must be admitted, differences also.

Altogether, though the evidence of these pictures bears very strongly in favor of the solar origin of the outer corona, it is probably best to wait for the testimony of the photographs of the recent eclipse in India before coming to a final conclusion. These pictures,* more than twenty in number, taken most of them under the finest atmospheric conditions, and with all the advantage of previous experience, can hardly fail to utter some authoritative decision.

And if it be solar, then arise a number of most interesting and difficult problems relating to its cause and nature, for while regarded as a mere glare in our own atmosphere it would be a phenomenon of little dignity or consequence, the case is far different if we find it to be made up of columns of luminous matter whose length is reckoned by millions of miles, and of corresponding diameter, resting upon the sun, or projected by him into space.

Were the columns of the same material as that which composes mainly the inner corona (the 1474-stuff, as we may call it provisionally), then it is probable that Respighi, on looking through his prism-armed telescope, instead of seeing the green image as a simple ring, just like those in the red and blue which were due to hydrogen, would have found it a complete corona, rays, rifts and all. Such a result would have been conclusive, and I more than half expected it. The negative result however is indecisive, since he might have failed to see the rays either on account of their faintness, or for want of enough dispersive power to weaken sufficiently the light of the continuous spectrum that formed the background to the images; similar remarks apply to Mr. Lockyer's observation. Indeed that something was unsatisfactory with his apparatus seems evident from the fact that the images which Respighi found to extend to a distance of 7′ from the edge of the moon, were estimated by him as only 2′ wide.

Taking the observation as it stands however, there is a probability that the streamers shine mainly by reflected sunlight, and are composed of *haze*, *i.e.* minute particles of solid or liquid matter scattered through a gaseous medium.

And assuming them to be at the sun, there appear to be two possible lines of explanation. We may look at them as due to simple mechanical actions—formed by matter blown out of the sun by the same forces that eject the matter of the prominences; and so enormous are these forces that in the light of what I have seen for myself of the sun's eruptive energy, the explanation seems to me far more probable than it did a few months ago. Still it is difficult to see how the enormous solar gravity should fail to bend and curve these rays, and bring them back towards its surface.

The other explanation would regard them as made up of particles, not necessarily moving with any great velocity, arranged in columns and rendered luminous by solar forces analogous to those terrestrial forces which produce our own aurora. It is true we know but little as to the manner in which the auroral beams are formed and made luminous, only that in their origin they are what we call magnetic and electrical to a great extent.

But this does not bar the analogy. On the contrary, the connection between the disturbances of the solar surface and the terrestrial magnetism is so intimate, and it is so improbable that the intense thermal and luminous activity of the sun should not be accompanied by a corresponding development of electric energy, that it would seem altogether likely that the magnetic and electric phenomena of the earth must have their solar analogues, and that upon the solar scale. One curious fact bears in favor of this view. One of the fainter lines in the spectrum of the aurora appears to coincide with 1474: as if in our own auroral beams we had the same substance which forms the staple of the sun's corona.

Still this auroral line is so rarely seen (it must not be confounded with the *principal* line of the aurora-spectrum), so faint and difficult of observation, that its position can hardly be considered as accurately known, and the apparent coincidence may be merely accidental.

Could the corona by some means be brought within the range of daily observation, as the chromosphere has been, we might hope soon to come to a more perfect knowledge of its nature. Its light is so feeble that it is difficult to conceive the possibility of this, and yet who can say what science may not accomplish? In the mean time astronomers wait with what patience they best may be for the eclipse of 1878.

WHERE ARE VOWEL AND CONSONANT SOUNDS MADE?

BY PROF. E. M. MOORE, M.D., ROCHESTER, N. Y.

The function of voice has always been a theme of interest to a wider circle of men that physicians. The most profound students of language, those who push their inquiries into the phonetic forms of the dim past, seeking to unravel the net of history in the twilight of the race, are perhaps more interested than any other class, except the pure physiologist. The students of Sanskrit have brought forward elaborate and excellent treatises upon phonation, written more than three thousand years ago, pushing the inquiry as far and as accurately as mere observation could go. Since the discovery of the laryngoscope the whole subject has undergone and is now undergoing a complete revision by the practice of auto-laryngoscopy, and we shall undoubtedly have the whole topic vastly advanced. Indeed it may be so far as to enable us successfully to initiate an inquiry into an anatomical explanation of certain phonetic laws which some profound German scholars have propounded, and also lead to the discovery of others. These men look to the physiologists, in hopes that a law of anatomical and physiological relation to sounds may be discovered, upon which to rest a solid foundation for the expansion of ethnology and comparative philology.

The unanimity of opinion among physiologists, who have given their attention to the function to the larynx in the production of the voice, has led me to note two cases of striking interest, and so conclusive in their character that I think they will be regarded as an offset to the experiments and observations that have heretofore been made, and upon which opinion has rested. They have the merit of substituting fact for inference, and, indeed, fact bearing the potency of an experimentum crucis. In order, however, to the full understanding of the question, I will take Carpenter as the authority for the standard opinions, and recite his view on the subject at the point I propose to elucidate.

The doctrine of the reed-sound in the production of the laryngeal voice, it seems to me, is firmly settled and universally admitted; the proof resting not only upon the form of the organ, but on the production of sound from the artificial larynx. Here at the vocal chords, the body of sound known as the sonant voice, in contradistinction to the whisper, is undoubtedly made. But the especial point to which this paper is directed is not this, but to the correction of opinion with reference to the production of vowel-sounds. These are asseverated to result from the passage of air along the mouth, and to be the effect of its modification, including of course, the pharynx and nose as factors. In proof of this I quote Carpenter.

"The vowel-sounds are continuous tone modified by the form of the aperture through which they pass out; while in sounding consonants the breath suffers a more or less complete interruption in its passage through parts anterior to the larynx. Hence the really simple vowel-sounds are capable of prolongation during any time that breath can sustain them. This is not the case, however

* In an article which has just appeared in the April number of the Popular Science Review, Mr. Proctor says:

"None of the photographs show so great an extension of the corona as is seen in Mr. Brothers's photograph, taken at Syracuse in December, 1871; but, on the other hand, the coronal features are better defined; and necessarily the great number of the photographs renders the value of the series singularly great. The agreement between the views, as well those taken at different times during totality as those taken at different stations, is greater even than the solar theory of the corona absolutely requires, for it is not incompatible with recognizable variations. However, not even such difficulties, or at least none worth noticing, present themselves. We have in all the views the same extensive corona, with persistent rifts similarly situated."

This is the only statement I have yet seen with reference to the result of the comparison of the photographs.

April 16, 1872.

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with the real diphthongal sounds (of which it will presently appear that the English *i* is one), whilst it is true of some consonants. It seems to have been forgotten by many who have written on this subject, that the laryngeal voice is not essential to the formation of either vowels or consonants; for all may be sounded in a whisper. It is evident, therefore, that the larynx is not primarily concerned in their production, and this has been fully established."

Again he says: "That the vowel-sounds are produced by simple modifications in the form of the external passages is easily proved, both by observation and imitative experiment. When the mouth is opened wide, the tongue depressed, and the velum palati elevated, so as to give the freest possible exit to the voice, the vowel *a* in its broadest form (*ah*) is sounded. On the other hand, if the oral aperature be contracted, the tongue being still depressed, the sound *oo*, the continental *u* is produced. If attention be paid to the state of the buccal cavity during the pronunciation of the different vowel-sounds, it will be found to undergo a great variety of modifications, arising from varieties of position of the tongue, the cheeks, the lips, and the velum palati. The position of the tongue is, indeed, one of the primary conditions of the variation of the sounds, for it may be easily ascertained that, by peculiar inflections of this organ, a great diversity of vowel-sounds may be produced; the other parts remaining the same. Still there is a certain position of all the parts which is most favorable to the formation of each of these sounds; but this could not be expressed without a lengthened description. The following table, slightly altered from that of Kempelen, expresses the relative dimensions of the *buccal cavity* and of the *oral orifice*, for some of the principal of these—the number 5 expressing the largest size, and the others in like proportion :—

Vowel sounds.			Oral opening.	Size of Buccal cavity.
a	"	ah	5	2
a	"	name	4	2
e	"	theme	3	1
o	"	cold	2	4
oo	"	cool	1	5

"These are the sounds of the five vowels, *a*, *e*, *i*, *o*, *u*, in most continental languages; and it cannot but be admitted that the arrangement is a much more natural one than that of our own vowel-series." Having made this quotation, I proceed at once to give the first case, bearing directly on this point:—

Edward Larkin, æt. 56, born in Ireland, April 14, 1871, attempted suicide with a razor. A cut was made immediately above the thyroid cartilage, extending an inch each side of the median line horizontally, and shaving off the epiglottis at its base. The muscles below and above, by their tonic power, soon made an oval opening, two inches by ¾ of an inch. Swallowing became impossible. On the fourth day he was brought to St. Mary's hospital, having taken no food. No attempt was made to bring the edges together, trusting to the granulating process. A tube, introduced through the opening into the œsophagus, conveyed food to the stomach. This process was continued for about five weeks, when swallowing became possible, although the opening, which had become nearly circular, was about half an inch in diameter. At the present time (June 10, 1871) he swallows solid food, but part of the liquid food will run out of the opening. At any time he was able to talk by bending his head forward and temporarily closing the opening. When the head was thrown back, he immediately lost this power.

The experiment of enunciation of the alphabetical sounds, with the head thrown back, was made with the vowels first. The four sounds of *a* as in *all*, *arm*, *age*, *at*, were at once distinctly rendered. *E*, next attempted, always resulted in *a* as in *age*. (This, I think, must be put to the account of the Hibernian larynx.)

I is a dipthong, and was clearly rendered.

O, both long and short, was well brought out as in *note* and *not*. The short *u* as in *cut*, and represented by nearly all the other vowels, was also well pronounced.

Y as *I*.

The dipthongs were more difficult, and some could not be uttered; *ou* as in *our* was pretty well pronounced; *oo*, a pure vowel, was uniformly rendered as *o* in *note*.

Oi, as in *noise*, could scarcely be distinguished.

The alphabet, taken in order, resulted in the enunciation of the vowel element. Thus our letter *B* was pronounced *a*, as also *C* and *D*. There was absolutely no consonant uttered. The breathing, which is represented by the letter *H*, was perfectly rendered. It was clear and smooth, and when joined to a vowel was spoken loudly and clearly. Thus, *Ha* and other sounds of *a*, *Hi* and *Ho*, also *Hu short*, were pronounced with ease. *K* and *G* are considered guttural aspirates. Any attempt to produce them resulted in the pure aspirate.

These experiments were repeated on two different occasions, a few days apart, and with the same results. But on the second trial it was suggested that some air might pass into the mouth, and a curtain of buckskin was fitted to the upper part of the aperture, thus cutting off all the air that might reach the mouth. The result was the same.

As regards the finish of the tones called vowels, there was clearly a defect. This might be due to the thickening of the mucous membrane, incident to the inflammation in its immediate neighborhood—a good and quite sufficient cause. Or it might be explained by the absence of the modification by the mouth, tongue, and other parts, which have been supposed to create the sounds, but which, as is here shown, can only polish and complete what has been begun. But a little practice will enable one to hold the parts above the larynx perfectly quiet, and still produce the vowel-sound. This case is so pathognomonic, if I can apply such a term, that it must reverse and settle opinion upon the seat of certain vowel-sounds.

The number of sounds that Larkin was enabled to enumerate was limited; but I will now cite another case that, from its peculiar character, supplements the one just detailed, and by its results confirms the belief that Larkin's ability to enunciate as described would exist in all others, thus placing the seat of such vocalization as normal in all.

During the year 1856 I was called into Orleans Co., to see Edward Matthews, who was suffering from urgent dyspnœa. I arrived at his house in the night, and at once opened the crico-thyroid space. The relief was sufficient, and I did not see him again for a long time. Two years after, as I am informed, a piece of bone was removed from the opening, which had been kept free by a tube. This seemed to be lodged in the larynx somewhere, but the statement is too indefinite to be thoroughly understood. Nevertheless, there was a great abatement of unpleasant symptoms from soreness and dyspnœa. But slowly and gradually the glottis became closed, and for more than ten years a cicatrix has cut off the air from the trachea into the mouth, the closeure being at the base of the larynx and absolute, not the least air passing through. Mr. Matthews, who is now forty-four years of age, is a man of intelligence, and has made great and constant efforts to enunciate clearly, and has improved much of later years. Of course, every sound is a whisper, and also short, for the air is driven by the buccinators and the muscles of the tongue and the supply of air is small From this man we would expect to hear the consonants, if he could speak at all, and this is essentially true.

R and *L* he cannot pronounce, as they require a continuous tone, and are interested in a quiescent state of the buccinators, which are the chief means of forcing the air out. But even these sounds can be faintly traced in combination with others, in the construction of a word. The pure breathing represented by the letter *H* cannot be made at all, or in any combination. The single vowel-sounds of *a*, as in *arm*, *at all*, *age*, cannot be rendered at all. A blowing sound was the result of the effort, and when the finger was placed over the aperature in the trachea there was absolute silence. The cerebral command was obviously to the larynx. *O* was also silent, or resulting in *oo*, as in *ooze*. *I*, as in *isle*, was also silent, when the aperature was closed, or a mere blowing sound if opened. *E*, clearly enunciated, and this vowel is made in the front part of the mouth, by throwing the tip of the tongue against the lower incisors and curling it upwards. While fixed, the continuous tone *E* results.

The nameless vowel represented by *u* as in *nut*, *e* as in *err*, *i* as in *sir*, and *o* as in *honor*, sometimes styled the urvocal, could not be uttered except in connection with consonants.

Short *o* as in *not*, short *e* as in *net*, short *i* as in *nit*, could be rendered in conjunction with consonants, but, with the exception of short *e* could not be rendered individually. The diphthongs were much more successfully pronounced than by Larkin.

Thus the soft *u* as in *gratitude* is a diphthong composed of *e u (oo)* and was rendered beautifully.

Oo is really a very pure vowel, perhaps the most of any, if we except *e*, but it is not so placed in our catalogues, and I can hardly understand why, unless it happens to be represented by a double character. This is made at the lips exclusively, as in *ooze*, and was rendered with great perfection.

Oi as in *noise*, and *ou* as in *our*, both failed.

As might be expected, the consonants are generally pronounced, most of them individually, but some only in connection with vowels.

B, C, D, F, G, K, P, T, X, Z, and V, pronounced as words, and pure. But H not at all. L and R very faint, when combined with *e* long.

M and N in connection with vowels only.

The consonants, P and T, made in the front part of the mouth, were more easily managed than the others. Accordingly the vowels within his capacity were sure to be brought out best between them. Thus: Pet, pit, pot, put, pretty well; peet, admirably; pout, not at all; peut, beautifully; Pat, as *put* or *pot*; pate, not at all, or as *peet*; th, as in thing and with, well; ch, as in church, and sh, as in shall, well; nt, as in *sent*, well.

The conclusions that I arrive at from these two striking cases are these:—

1st. That the larynx is not only the generator of voice (so called), but the actual seat of vocalization for the vowels *a*, in all its forms, *i* long, *o* long, and the pure aspirate. Also the short vowels, which are also explosive, as *i* in *sit*, *o* in *not*, and the nameless one or urvocal.

2d. That these sounds receive a finish in the pharynx, nose, and mouth; with the exception of the pure breathing and the short vowels.

3d. The consonants are all made above the larynx.

4th. The vowel *e* long is made purely in the front part of the mouth, also the vowel *oo* and the diphthong *eu* which is composed of these two elements.

5th. The short vowels (*e* in *met*) (*i* in *sit*) (*u* in *nut*) (*o* in *not*) can be made in the front part of the mouth.

6th. The urvocal can probably be made in several places from the larynx to the front of the mouth.

These propositions are nearly all mere statements of facts, but some are inferences.

The observations on Edward Larkin were made in the presence of my colleagues, Drs. Casey and Carroll, of St. Mary's Hospital, and also of Prof. Lattimore of the Rochester University. They were repeated on two occasions, a few days apart, but became after a short time impossible from closure.

Those on Mr. Matthews have been repeated on three occasions, within the last three months: on one in the presence of my colleagues in the Buffalo Medical College and several physicians and students of medicine, and on another, in the presence of Prof. Mixer of the Rochester University, and Prof. Palmer of the Normal School at Brockport—two gentlemen whose interest in the case arose from the fact that they were the teachers of languages in their respective institutions. Doubtful sounds have been carefully excluded, and I feel sure that no observations have been retained which are not clear and decided beyond cavil.—*Medical Record.*

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SCIENTIFIC.

Velocity of Vision.—The last number of Plüger's *Archiv für Physiologie* contains a paper by M. Baxt, of St. Petersburg, "On the time requisite for a visual impression to arrive at the consciousness and upon the duration of the period of consciousness, caused by a visual impression of definite duration." From the experiments of Helmholtz and Exner it has been shown that, if a number of ordinary letterpress letters be exhibited to the eye on a white ground, sometimes one, sometimes two or more of them are distinguished from the row according to the duration of the impression, and that of the positive after-image. M. Baxt proceeded on the same principle, and his apparatus was similar to those employed by Helmholtz, and consisted of two disks, which could be caused to revolve at known speed but the posterior of which rotated twelve times quicker than the anterior. From the numerous experiments given (too complicated to be here inserted) it appears—1. That the consciousness of a given excitation is only realized or perfected by degrees; and 2. That under the particular circumstances of his experiments, a period of 1-20th of a second must elapse between the occurrence of a relatively simple excitation of 6 or 7 letters suddenly placed before and withdrawn from the eyes, and its reception or formation in the conciousness. In other experiments he found that the time required for the comprehension of a complex figure was much greater than that for a simple figure, the proportion between an ellipse and a pentagon for instance being as 1 : 5. Researches on the time requisite for the production of consciousness with various strengths of illumination gave the result that this time was proportionate within rather wide limits to the degree of illumination; but if the illumination was excessively strong or weak, it increased.

Experiments in Refrigeration.—In a recent number of the *Centralblatt*, Dr. Horvath, of Kieff, reports some interesting results which he has derived from his experiments on the Refrigeration of Warm-blooded Animals. 1. Refrigeration was carried to such a degree in a young dog, that the temperature in the rectum descended to 6·6°, and even to 5·8° C. (44° to 40° F.,) and yet the animal, on the reapplication of heat, revived, being then apparently in much the same condition as before the refrigeration. As far as Dr. Hovarth is aware, no one had hitherto seen a warm blooded animal restored to life after such reduction of temperature. 2. In other experiments he has reduced the temperature (in the rectum) of a rabbit to 7° C. (45° F.,) and of a cat to 9·5° C. (49° F.,) and found that neither the action of the heart nor the respiratory movements could be perceived. Nor did even the strongest electrical current exert the slightest effect either upon the muscles of the skeleton or directly upon exposed nerves. On the restoration of warmth, by pouring warm water over these animals, which had remained for an hour in a state of apparent death, spontaneous contractions of the heart, which had ceased for an hour, were observed. The electrical current, also, applied directly to the muscles, induced energetic contractions in the same muscles which, before the warmth was applied, were insensible to the strongest electrical action. 3. A third interesting and not less important fact is, that in an animal which was first refrigerated and then warmed, it was not possible to excite the action of the muscles of the skeleton by even the strongest electrical stimulus when applied to their nerves, while these same muscles, on the direct application of the current, contracted energetically. The fact that we can separate nervous and muscular energy from each other by this agency, which hitherto it has only been possible to do by the employment of curare, promises to be of good service in future researches concerning the physiology of the muscular and nervous systems.—*Medical Times and Gazette.*

Electric Probe for Wounds.—The French electrician, M. Trouve, has recently described a new probe for the search and extraction of foreign bodies remaining in wounds. Surgeons have at all times been anxious for the discovery of a simple and practical means of revealing to them to a certainty, the presence of any foreign body in the tissues. Since Garibaldi's wound, two plans have been proposed, the one frictional and the other electrical. That by friction (Dr. Netalon's plan) was preferred to the employment of electricity, proposed by M. Favre of Marseilles, which was the subject of a communication to the Academy of Sciences. The style of probe which Dr. Netalon uses to discover the presence of a ball has at its extremity a small "rugous" or wrinkled procelain ball, which becomes blackened in contact with a leaden bullet. This plan is, without doubt, ingenious, and in this special case of great utility; but the services which it can render are very limited. In fact the body, the presence of which it is sought to verify, must be of lead, and the wound should not be closed very straight, nor even very curved. This verification becomes even impossible when, as frequently happens, the bullet is encysted or covered with a portion of muscle or cartilage, or even with a fragment of the clothing of the wounded person.

The apparatus of Mr. Trouve consists of three distinct parts—a battery, a probe, and an indicator *(revelateur)*. In principle, it is founded on the difference in conductibility between metals and other bodies. The battery is formed of a zinc and carbon element, inclosed in a case of hardened India rubber hermetically sealed, the exciting liquid being bisulphate of mercury. The probe is a pipe, flexible or rigid, constructed so that the preliminary probing may be effected, and then the stylets of the indicating apparatus may be introduced. The indicator contains in its interior a very small electro-magnet with a vibrator and two small rods of steel, very sharp and insulated from each other; and as soon as these points, which are in connection with the battery, touch any metallic substance, the vibrator begins to move.

With this apparatus, it is possible to distinguish the different metals from one another. If the metal is lead, the trembler vibrates regularly; if, however, it is iron or copper, the trembler has a jerky movement.

A Musical Sensitive Flame.—Mr. W. E. Geyer, Physical Assistant in the Stevens Institute of Technology, describes in the May number of the *American Journal of Science* an ingenious modification of Govi's sensitive flame, by which the flame not only shortens when disturbed, but also emits a sound, thus making the effect evident to the ear as well as to the eye. In Professor Govi's arrangement, a piece of ordinary wire-gauze is placed a few inches above the gas-jet, and the gas is lighted above it; the conical flame thus obtained is depressed by the least noise, becoming scarcely visible. Mr. Geyer suggests the simple addition of a tube—either of glass or brass—twelve inches long and one and a quarter inches in diameter, which is allowed to rest upon the gauze and which covers the flame. Properly adjusted, a luminous flame six to eight inches long is produced, which is quite sensitive to sharp sounds. If now, the gauze and tube be raised, the flame shortens, appears less luminous, and becomes violently agitated, emitting a loud uniform tone. By lowering the gauze until the sound just ceases, the sensitive flame in question is produced. At the slightest sound, a hiss in any part of the room, the rattling of keys in the pocket, the running of water, the crumpling of paper, or even moving the hand over the table, the flame sounds, continuing to do so as long as the noise exists. So quick are the responses, that a time of a tune, by rapping, playing or whistling it, may be reproduced in the sounding flame. It sings twice when the word "sensitive" is pronounced; and in general, it promptly interrupts the speaker at every "s" he uses. It is not necessary to be especially particular about the various parts of the apparatus. A brass or glass jet with an aperture of from one-sixteenth to one-thirty-second of an inch in diameter answers perfectly. The gauze may be of any ordinary fineness; a piece containing twenty eight meshes to the inch works well. The tube may be of any material and of any convenient size, the pitch of the note only, being affected by these conditions. Ordinary gas pipes from seven to twenty-four inches long and from one to one and a half inches in diameter have been used successfully. The ordinary pressure of the street gas is quite sufficient for the experiment.

By suitable adjustment, four flames may be obtained with this apparatus; (1) a simple sensitive flame which becomes depressed and non-luminous by external noises; (2) a flame which sounds continuously, and is not sensitive; this is analogous to the "pyrophone" of Dr. O. W. Holmes; (3) a sensitive flame which sounds when disturbed; and (4) a sounding flame which ceases to sing whenever disturbed.

On the Sun's Radiant Heat.—We find republished in *Van Nostrand's Engineering Magazine* for May, a communication from Captain John Ericsson to *Engineering*, on the subject of the radiant heat transmitted from different portions of the solar surface. Laplace, in his "Mechanique Céleste," finding that equal areas on the sun's surface do not transmit equal energies—much more heat being radiated (contrary to his theory) from the central, than from the border regions of his disk—explains the result by supposing a marked absorption of the radiated energy by the solar atmosphere. Captain Ericsson by an ingenious method, has submitted this question to the test of experiment. His apparatus consists of a conical vessel, surrounded by a water-jacket through which water may be made to flow. The top of this vessel has a flange, upon which is closely fitted a cannon ball of suitable size. Beneath the ball a hemispherical screen may be placed, having a portion cut away, thus exposing a certain area of the heated ball so as to exert its action upon a thermometer inserted near the smaller end of the vessel, whose bulb is in the focus of its hemispherical surface. Four of these screens were provided, the openings in which corresponded to equal zone-areas on the surface of the ball. When the ball was heated to incandescence and placed on the flange, the intensity of the heat transmitted to the thermometer was found to be very different for the different screens. Thus for example, the zone directly opposite to the thermometer produced by its radiation a temperature of 42·5 degrees while the zone farthest away, *i. e.*, the equatorial zone, though of equal area, raised the temperature of the thermometer only 6·19 degrees. Indeed, by calculating the amount of heat radiated,—according to the law already established by the author, that the intensity of the radiant heat transmitted by an inclined surface, is directly proportional to the sine of the angle made by that surface with the projected heat-ray—it is found that if the lower zone radiates heat sufficient to raise the temperature of the thermometer 42·50 degrees, the three other zones of equal area, ought to emit an amount of heat which will raise the temperature of the thermometer 28·50, 16·31 and 5·16 degrees respectively. Actual experiment gave 42·50, 27·49, 12·82, and 6·19 degrees as the respective temperatures observed by the thermometer. This agreement is quite as close as the conditions of the experiment will admit of. It is quite close enough to disprove the theory of Laplace, or at least, to negative the assumption upon which it is founded, *i.e.*, that the surface of a heated body projects rays of equal energy in all directions. If this be false, as these experiments of Ericsson—both those on radiation from spheres and from inclined surfaces—show, then all the conclusions drawn from it concerning the solar energy are false also. Laplace concluded that the absorption of the solar atmosphere reached the enormous quantity of eleven-twelfths of the entire energy emitted! And even Père Secchi, so late as 1870, follows in the same track and asserts that but a little more than one-eighth of the entire solar energy is allowed to pass the sun's atmosphere! Ericsson shows by calculation that upon the latter supposition the solar atmosphere—as tenuous probably as that of our earth, at least—is required to absorb every minute, an energy represented by a dynamic force of 49·516 horse-powers over every square foot of the sun's surface! A sufficient *reductio ad absurdum*, it would seem, independent of the positive disproof given by the experiments above narrated.

THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, MAY 11, 1872.

IN the advertisment of the Massachusetts Institute of Technology in our columns as printed last week, a typographical error made a knowledge of *Plane Trigonometry* necessary for admission to the Institute. It should have been and is now *Plane Geometry* instead.

A MEMORIAL, signed among others by Carlyle, Froude, J. Stuart Mill, Huxley, Mosley, and Ruskin, was presented to Earl Granville last Saturday, urging Her Majesty's government to take measures to secure a just and equitable copyright treaty with the United States. Lord Granville promised that the government would give the matter careful attention. If now, not only careful attention,but definite action could be secured for the subject both in this country and Europe we should greatly rejoice. We are almost losing hope of getting anything on this point from the present Congress.

AT the last session of the Kentucky conference of the Methodist church, it was resolved, "That a Convention of laymen, members of our church, be assembled in Millersburg, Ky., during the Conference year, to deliberate upon the subject of education, and to adopt such measures as, in the judgment of the Convention, may best subserve this great interest in Kentucky and Western Virginia." This Convention is to assemble at the place designated on Thursday, June 6th, at 10 A. M. A large numher of delegates are desired and it is affirmed that though the number reach five hundred "Kentucky hospitality in the Blue Grass region is equal to any emergency." It is supposed that the deliberations of the Convention will have some influence on the fate of the proposed Central University to which we have refered several times heretofore.

PROFESSOR Whitney, of Yale, in the *Independent* of last week gives a most scorching criticism of Jacolliot's "Bible in India." This book in certain quarters is accepted as authority and as some of its conclusions are that Egypt, Palestine, Greece, and Rome were only borrowers and imitators of India, and that the Hebrew and Christian Scriptures are but a weak copy of the Vedas and Manu, and other sacred books of the Hindus; this authoritative exposé of the ignorance of the author and the utter unreliability of his work cannot but be valuable. The following, the concluding paragraph of the article, expresses in brief Prof. Whitney's opinion of the work: "M. Jacolliot's book, then, is, from beginning to end, a mere tirade; ignorance and prejudice are its distinguishing characteristics. One needs almost to apologize for entering into any extended refutation of it. It is a piece of work which a scholar would wish to dismiss with only a few words of contempt and disgust. That it should ever have found a translator and publisher in England, a republisher in this country, is well nigh inexplicable. Even those who share its opposition to Christianity should have sense to perceive that their cause will be in the end far more harmed than helped by it; inasmuoh as the repulse of every ill-advised and foolish attack gives additional strength to the party attacked."

WE suppose that the amateur boating of the American colleges is looked upon by very many good people as a very foolish expenditure of money and muscle. And there are reasons for such a belief. But when such circumstances take place as occurred at the Northwestern University the other day, it puts a different phase upon the matter. On the afternoon of the 16th, inst., a vessel was reported as wrecked off Gross Point some four miles up the lake from the university. As soon as the fact was made known to the captain of the senior class crew, he summoned his men and taking the life boat up opposite the vessel they launched it and set out to render the needed assistance. The water was rough for the wind had been blowing for twenty-four hours, and the weather was cold but they boldly pushed forward and had already passed over a third of the distance, when a tug from the city was seen approaching the wrecked vessel. This rendered their efforts unnecessary and so they returned. But although they accomplished no definite result, what they did gave evidence of the requisite will and courage and discipline, to act in such emergencies, and they seem to us worthy of all honor for their attempt. And we rejoice further in this new evidence of the value of this popular species of physical culture in colleges.

THE *Tribune's* regular correspondent in London gives some information in reference to the Dublin University bill, the dispute over which recently threatened to overthrow the English Cabinet. It seems that two elements which support the Gladstone ministry, the Irish ultramontanes, and the English non-conformists, and Scotch liberals, are opposed in spirit and opinions, in reference to the higher education in Ireland. The former, the ultramontanes, will be satisfied with nothing short of absolute control over the higher as well as the lower education. But to grant this control is to mortally offend the latter party, who are strong friends of the ministry. Mr. Fawcett's bill, known as the Dublin University bill, and the cause of the disturbance, purposes to take the university out of the hands of the disestablished Irish church, and put the control of it in the hands of its own graduates; to abolish the tests which now close its Fellowships to Roman Catholics; and to reconstruct the university by throwing open its government to all classes of graduates whether Episcopalians, Roman Catholics or Presbyterians. The second clause, the ministry are reported to be willing to accept; but to accept the third is to render the Irish ultramontanes dissatisfied and even, it is affirmed, to alieniate them entirely. And hence the quandary. Later dispatches affirm that the ministry have determined not to make the matter a cabinet question and so the interest in the subject as far as that body is concerned is at an end. But upon its own merits the bill has considerable interest. Mr. Fawcett has brought the matter up several times heretofore, and seems determined to force a solution. Whether it will be settled this session of Parliament remains to be seen.

THE gentleman who conducts the "Intelligence Department" of the *National Normal* shows an ignorance of good taste and even common decency, and a cool assumption which seems to answer his purpose just as well as fact, that "would certainly be ridiculous if it were not so fearful." Perhaps some of our readers will remember that we spoke some time ago about the employment of improvements in teaching, at Yale, instancing the case of Prof. Wheeler giving out topics in political philosophy to the Senior class, upon which they were to prepare themselves from any sources at their command, and after a time be examined upon the same. The gentleman referred to above, takes us to task for calling such a mode of procedure a new method of teaching and with a quiet patronizing scorn tells us that a method which we called new,only in reference to its being a change from the common method at Yale, "has long been practiced by every teacher in the country who has had heart and sense enough to consider and try to meet the true interests of his pupils." But not content with thus setting us right, this gentleman goes off into a tirade against professors in general and Prof. Wheeler in particular, charging him with a desire of being a political philosopher—but he, however, has the regard for truth to say that this is "probably" so—and accusing professors in general of acting "as if they were to work for anybody but their pupils," et cetera. And this leads us to say that for a cool bit of assumption and impudence commend us to the above. But the gentlemen does not stop here. He goes on to give advice in regard to teaching, which is directed to Prof. Wheeler in particular, but which is so good that we cannot forbear enlarging its sphere of usefulness. He says, and it requires no comment:

First, Guide your pupils to those sources of information which are *supposed* to be accessible only to yourself.

Second, Encourage each pupil to prepare upon the topics just such *lectures* as their professor has so frequently delivered to them.

Third, Go to the recitation to hear these crude lectures delivered, opening not your mouth only to criticize, and encourage, and to correct.

Fourth, Be not so jealous of your superior wisdom as to take up all the time to show yourself off, and so discourage your pupils.

A WRITER in the *Christian Union* of last week, gives some very interesting information in reference to "The Agricultural College Bill" so called, of 1862, and in reference to the results that have followed from that act. The bill was originally designed to establish in every State, at least one college of Agriculture and the Mechanic Arts, but was so worded that divers institutions have received its benefits. In some States institutions devoted mostly to agriculture have obtained the grant, while in others, those which are more scientific and technological have been fostered thereby. Some States have enjoyed the fruits of the act for some time, while others are just beginning to avail themselves of its provisions. But in the experience of those institutions which have longest been organized under the act, some embarrassments have arisen. They, according to the writer whom we are quoting, are chiefly due to one of three causes,—inexperience respecting the best shape to be given to the new institutions; inadequacy of the endowment; and, difficulties in securing highly competent teachers. The first and third of these are naturally passing away as time goes along. The second it is proposed to remove by an additional grant of land. A bill to this effect has recently been introduced into Congress, and not long since two informal meetings were held in Washington, the one at the house of Senator Buckingham, of Conn., and the other at the house of Senator Morrill, of Vermont, in the interests of this bill. There were present at one or the other of these meetings some of the most respected members of the Senate and House of Representatives, and persons from nearly every State in the Union. Interesting information was communicated and the favorable consideration of Congress to the plan proposed for increased endowment, was urged upon the following grounds:

1. The grant of 1862 has been experimental, the results on the whole being admirable.

2. Its inefficiency in some of the Southern States is but temporary, and easily explained by the disturbed state of the country.

3. Increased endowments will improve what is good, and strengthen what is weak.

4. All civilized governments are now devoting their energy to the establishment of technical schools.

5. The mode adopted in this country for bestowing national aid not only favors the independent control and responsibility of the several States, but quickens the generous benefactions of States, counties, towns and individuals.

6. Technical schools are so costly, requiring so many experts as teachers, and such varied buildings, appara-

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tus, collections, &c., that they can only hope to be adequately helped by national endowments.

7. National aid, in this emergency, will tend to promote industry, save waste, develop the resources, and so promote the distribution of wealth and comfort among the people of the United States.

It is to be hoped that the matter will receive from Congress the attention which it deserves. As we understand it, the aid asked is urgently needed in order to render efficient the grant which has already been made, at least without further aid the movement will inevitably drag.

THE CANDIDATES FOR THE NEW MEMBERS OF THE YALE CORPORATION.

We give below the list of the persons who, in the nominations recently made by the graduates of Yale for the position of Alumni members of the Corporation, have received over twenty-five votes. The regulations under which these persons are to be voted for, defining the manner of casting the votes, etc, will be made public as soon as they are perfected. The list is as follows:

Jared Linsly, M.D., N. Y. City, 1826.
Hon. W. W. Hoppen, Prov. R. I., 1828.
Hon. Wm. Strong, Phil. Pa, and Wash. D. C., 1828.
Hon. Lewis B. Woodruff, LL.D., N. Y. City, 1830.
Rt. Rev. T. M. Clark, D.D., Prov. R. I., 1831.
Edward E. Salisbury, LL.D., New Haven, Conn. 1832.
— Chas. Tracy, Esq. New York City, 1832.
Hon. Alphonso Taft, LL.D., Cin., O., 1833.
Hon. Wm. M. Evarts, LL.D., N. Y. City, 1837.
Hon. Edwards Pierrepont. N. Y. City, 1837.
Hon. Anthony Q. Keasbey, Newark, N. J., 1843.
Hon. Wm. B. Washburn, Greenfield, Mass., 1844.
Hon. Henry B. Harrison, New Haven, Conn., 1846.
Fred'k. J. Kingsbury, Esq., Waterbury, Conn., 1846.
Hon. B. Gratz Brown, St. Louis, Mo., 1847.
Hon. Dwight Foster, LL.D., Boston, Mass., 1848.
Prof. Franklin W. Fisk, D.D., Chicago, Ill., 1849.
Henry C. Robinson, Esq., Hartford, Conn., 1853.
Geo. D. F. Lord, Esq., N. Y. City, 1854.
— Alex. H. Stevens, Esq., N. Y. City, 1854.
Calvin G. Child, Esq., Stamford, Conn., 1855.
Edward G. Mason, Esq., Chicago, Ill., 1860.
— Wm. Walter Phelps, Esq., N. Y. City, 1860.
— Mason Young, Esq., N. Y. City, 1860.
Frank E. Kernochan, Esq., N. Y. City, 1861.
— Rev. Wm. G. Sumner, Morristown, N. J., 1863.
— Wm. C. Whitney, Esq., N. Y. City, 1863.
M. Dwight Collier, Esq., St. Louis, Mo., 1866.
Hon. Wm. A. Buckingham, LL.D., Norwich, Conn., 1866, (*hon.*)
Henry Farnam, Esq, New Haven, Conn., 1871. (*hon.*)
— Jos. E. Sheffield, Esq, New Haven, Conn., 1871. (*hon.*)

It will be observed that there are thirty-one candidates, and that they represent different sections of the country. As perhaps was natural the largest number, 11, are from New York City. Connecticut has 8, Rhode Island, Massachusetts, New Jersey, Missouri and Illinois, 2 each, and Ohio and Pennsylvania or District of Columbia, 1 each. Taking the mean of the number of years represented by the extremes of graduation of the candidates and it will be found that, if for the time being, we count out those who are eligible by virtue of having received honorary degrees, the candidates are equally divided. Fourteen of them graduated in or before 1846, the mean of the years represented, and fourteen since that time. If anything therefore may be judged from the candidates—which, however, it must be confessed, is a poor criterion,—the chances are for a very nearly equal division of the six new members between the young and old men, that is if our mean year of graduation, 1846, be taken as the dividing line between young and old men. The three candidates who have received honorary degrees, however, will make the chances somewhat in favor of the older men, on the same supposition. This distinction which ordinarily would seem to be of little importance has been made in the discussion heretofore, and it is therefore referred to in this place.

The limit between the young and old men must of course be put somewhere, and we take the mean of the years of graduation represented, rather than to decide the point arbitrarily. But we think that so far as the candidates are concerned those who are anxious that young men should be chosen, will have no cause for complaint. It will also be observed that comparatively few on the list—only three—are clergymen, and that two of those are Episcopalians and one a Congregationalist. Taken as a whole, the list seems to us a very satisfactory one. It would seem that every alumnus might find within it, half a dozen names which would represent his own peculiar ideas, and that therefore he ought to be content to make up his ticket when the time comes, and deposit it for the good of the college.

It may not be inappropriate in this place to refer to one or two considerations that have presented themselves thus far in the course of the movement. The first of these is in reference to the locality or residence of the new members. It has been urged and with a good deal of force, that the new members ought to reside near enough to New Haven, so that they may attend all the meetings of the body of which they compose a part. And we think no one will deny this. The very purpose for which they are chosen to the position is that they may have a good influence upon the college. But how can they accomplish this result without attending and taking an interest in the deliberations of that body which is the supervising power in the college. Without this attendance they become the same as any other graduates, who owe a kindly interest in, and a duty to the old college, it is true, but who lack that close connection, and responsibility which membership in the Corporation should bring. The very fact that some are chosen by their fellows to be members of this body, shows that they are expected to attend more closely to the affairs of the college, than if they had not been chosen. And in order to do this they must be where the inner condition, so to speak, of the college is discussed and where information in reference to its departments is made known, and where measures for the good of all are devised. And for this, propinquity of residence seems necessary. But what is the limit of this propinquity? Some have seemed to regard it as a few hours ride from New Haven. To this the great body of the Western Alumni, very naturally, and we almost might say, very properly, object. And it must be confessed that in these days of swift transit it is difficult to say what distance, should reasonably disqualify a man for the position. The best solution that we can give to the problem is, that it depends on the interest of the candidate in the college. If he is a live earnest man, deeply interested in the welfare of Yale, and can and will stand the expense of the travel to New Haven three times a year at the regular meetings of the Corporation, and has the time to devote to it, residence in St. Louis even, should be no bar to election. But if these qualifications are wanting, or if the thought that the college is getting along well enough, and that there is no especial need of his traversing the long distance, is likely to affect any candidate, we should much rather that he would reside nearer than Chicago or Cincinnati, even. But each voter must decide this point for himself and meanwhile we cannot conceal our gratification that seven or eight of the candidates are outside of a radius of one hundred and fifty miles from New Haven. In view of this fact it would seem that there ought to be no cause for complaint thus far, at least, among the Western Alumni.

The other consideration which the progress of events has brought to notice is, that there is already a disposition in some quarters to try to influence the election by combinations, not to say, by the formation of cliques. This it seems to us cannot be too highly reprehended. The object of the election is to, or at least should be, to benefit the college, and not to honor one's friends. And any alumnus who votes for a candidate out of friendship purely, is unfit to use the power with which he is entrusted. Moreover, such a policy seems to us short sighted in the extreme. If the graduates in any section of the county, by combination or maneuvering, secure the election of candidates from that section to an undue majority of the vacancies, naturally and almost necessarily, the interest of the graduates in other sections will be chilled. They will very properly feel that if the alumni in any section are going to be the managers, they may also be the supporters; and that harmonious support of the whole body of the alumni which it is one object of the change to gain, will be lost. If the graduates of any section do not want to create sectional divisions among the whole body of the alumni, and foster local jealousies, let them not attempt to control the election. And we say to all let everything be open and above board, and let no man write a name on his ticket, influenced by any other motive than that he is acting for the good of the college.

LITERARY.

With the issue of May 11th, Messrs. Holt and Williams, 25 Bond street, N. Y., assume the publication of *The Week*. The editorial management remains the same. The size and shape of the paper are to be changed and the number of pages increased to twenty-four.

Loomis' Musical and Masonic Journal for May presents a varied table of contents. In the musical part there is interesting miscellany and a four page piece of music, "Good Night Ye Pretty Flower," with both German and English words. The Masonic part contains a good amount of information interesting to the craft.

Mistress and Maid.*—The republication of this excellent story by Messrs. Harper & Brothers is a compliment both to the author and the American public. The quiet style and nice insight into the subtler phases of human character for which Miss Mulock's books are distinguished, render them especially acceptable to correct taste, and give them a useful and enviable position in modern literature.

**Mistress and Maid.*—By the author of John Halifax, Gentleman, (Mrs. Dinah Craik). New York. Harper & Brothers' 1872.

The World Before the Deluge.*—Louis Figuier is well known to the reading public as a most prolific writer on popular science, chiefly zoological, geological, and archæological. The work which lies before us has been many years in print and has been largely circulated through the country. The chief criticism to be made upon Figuier's works is that of superficiality; a fault not uncommon among mere bookmakers. His writings aim more or less at sensationalism, which the illustrations are especially adapted to foster. His imagination, moreover, is thoroughly Frenchy, scarcely hesitating to supply the facts where wanting and to represent as actual knowledge some of the least well founded speculations. For this reason the English editions have been submitted to the revision of Mr. Bristow, who, we are informed in the preface, has "confined himself to such alterations as were necessary to secure accuracy in the statement of facts, (!) and such additions as were necessary to represent more precisely the existing state of scientific opinion." Mr. Bristow has also added what he deemed was due to British Geologists.

That a new and American printed edition is required,

**The World Before the Deluge.* By Louis Figuier, Newly Edited and Revised by H. W. Bristow, F. R. S., F. G. S., of the Geological Survey of Great Britain; Hon. Fellow of Kings College, London. With 235 Illustrations, 12mo., pp. viii, 518. New York 1872. D. Appleton & Co., 549 and 551 Broadway.

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appears from the volume before us, which is smaller in size than its predecessors though containing the same matter and illustrations. It is printed in smaller type, on less fine paper, and is intended as a popular edition. It will do good if those who, read it, become sufficiently interested in the subject to peruse some larger and more authoritative book, and thus to correct their errors.

A Crown from a Spear.*—The plot of this novel is well conceived and the dramatis personae judiciously selected, but the writer lacks power, both in the mastery of English, and the delineation of character, to an extent that suggests a want of literary training, and a not very profound knowledge of human nature. The phraseology throughout is too highly strung, and withal eminently common place. Those "nice little touches of truth" of which the author speaks are as rare as any touch of sprightliness, or Gail Hamilton's "art of putting things;" nevertheless the style evinces fine feeling, if not severe taste, and the story possesses a very considerable degree of interest. The scene is laid in France and we are first introduced to Fabien, the priest, who at the age of twenty five in the time of the Second Emperor, speaks of himself thus: "I have explored the mysteries of the Cabala; that wonderful science has been my study day and night; the Zohar is my code; the languages of the past most hidden among the things hidden are as familiar to me as household words. Alchemy has revealed to me its secrets and its marvelous laws. Metaphysics has become to me a repetition of common-place dog mad. * * The ignorant look upon me as a Sorcerer. * * * I understand all that has exhausted time since the creation to develop. All that the search of ages and the experiments of science, all that theology and metaphysics have revealed I am master of." This talented young gentleman in the first book takes in charge Aimée the daughter of a convict, and Claude the son of a Count; and in the second part we find him installed at the Chateau de Clermont in a study the description of which is so absurd that we can hardly forbear quoting it. The young Count falls in love with his neighbor Celeste, also a ward of Fabien's, and Aimée impelled by jealousy disappear under circumstances which threw suspicion of her murder upon Claude. Whereupon Fabien drives Claude from his estate and Celeste to a convent. The latter married in the course of time, and her husband's life is saved by her former lover. Finally the various persons of the story are brought together in Paris where Aimée reappears as Madame la Marquise de Ventadons. She again tried to reach Claude's heart, but he prefers his very weak first love, and indulges his preference so far as to propose an elopement. This does not transpire, however, and Claude at about this time is imprisoned for seditious articles in the Revue des Deux Mondes; and notwithstanding the resignation of his property and title to Fabien, who turned out to be his half brother and elder, the Archbishop refuses to interfere in his behalf. Aimée watches over him and on her death-bed melts the heart of the ecclesiastic who then effects Claude's release and gives him Clermont again. Of course Céleste's husband is disposed of and a happy ending effected by the marriage of the old lovers. The most conspicuous error to which we have to call attention is the description of the study and occupations of Fabien, who in the middle of the nineteenth century is at the same time represented as a man of genuine education and invested with all the clap-trap paraphernalia of a modern juggler. Chemists do not, now-a-days, shake together different colored liquids in a crucible, or kindle fires in tripods and considering the very reasonable prices asked for eight day clocks it seems a little hard to have kept Fabien continually turning an hour glass. Notwithstanding the defects we have spoken of, the story is written with good intention and will appeal strongly to the hearts of many of its readers.

*A Crown from a Spear. By the author of Woven of Many Threads. Boston. James R. Osgood & Co. 1872.

The Lovels of Arden.*—The Novels of Miss Braddon are always readable; the majority of them are something more—they are interesting, sometimes highly interesting, and sometimes fascinating. They bear to each other a very strong resemblance, particularly in the construction of the plot, and in the denouement. Any one who has read a number of her works, will find little difficulty in anticipating the prominent features of any new story. At the same time, they are not at all alike in details—in the characters portrayed, in the incidents, and in the surroundings. In these particulars, they differ as much as any author who produces so much could well have them. Stories, like nearly everything else, to be novel or unique, must be the result of previous reflection, and a great deal more consideration than is usually devoted to their construction by the popular writers of the day, of whom the author of the one before us is one of the most voluminous. But she is not altogether to blame; the public is too impatient to wait for better productions. Besides, it is not the fashion of the day; writers are too greedy of gain to care particularly for their reputations. They seem to have a strong desire for the enjoyments of the present life, and to care little what is thought of them by posterity. "What did posterity ever do for them?" But among the ephemeral writers of fiction, Miss Braddon is one of the most popular, and deservedly so, for she is one of the best—one of the most entertaining, and sufficiently various to amuse such (who are the great majority of novel readers) as read for the enjoyment of the moment, and dismiss from their minds author, story, characters, incidents and everything else connected with the volume, when they have reached "The End."

"The Lovels of Arden" is a story in some respects peculiar to English life, yet not to such an extent as to deprive it of all interest to an American reader. On the contrary, the English peculiarities will be found one of the most attractive features of the work, the more especially as they are not found to any extent, and never, except as an imitation, on this side of the great water. The story opens at "the Great Northern Terminus at King's Cross," where Clarissa Lovel, the heroine of the story, "at eighteen years of age," after having been "seven years abroad in a school near Paris," is seated "in a comfortable corner of a first-class carriage," waiting to be borne away to her distant home, "near a small town called Holborough, in the depths of Yorkshire." "She is tall, above the ordinary height of women. There was a grace in the long, flowing lines of her figure more striking than the beauty of her face. The long slim throat, the sloping shoulder, not to be disguised even by the clumsy folds of a thick shawl." With "all her little girlish trifles of books and traveling bags gathered about her, she has begun to flatter herself with the pleasing fancy that she was to have the compartment to herself for the first stage of the journey, perhaps the whole of the journey, when a porter flung open the door with a bustling air, and a gentleman" entered the carriage. "The traveler was a man of about six or eight and twenty, tall, broad-shouldered, with long arms, and powerful-looking hands, ungloved and bronzed a little by sun and wind. There was the same healthy bronze upon his face; rather a handsome face, with a long, straight nose, dark blue eyes with thick brown eye-brows, a well-cut mouth and chin, and a thick thatch of crisp brown hair waving round a broad, intelligent-looking forehead. The firm, full upper lip was half hidden by a carefully trained mustache, and in his dress and bearing the stranger has altogether a military air; one could fancy him a cavalry officer." And these two are the principal characters in the story; and the story is written to relate their respective love adventures. It is not within the province of the critic to trench upon the ground of the author, and give the reader in a few hasty sentences an outline of the story, thereby depriving it of a very large proportion of its interest. It should be left to the reader to discover, in the way the writer intends, the beauties of the narrative. We shall therefore leave these two young people in the rail-way carriage together, and grant the reader the full pleasure of following them to the end of their respective journeys. He who ventures into the carriage with them, and listens to their chary conversation, will find it difficult, if not impossible, to desert them at any of the way stations. It is one of the charms of this author's works, whatever may be their faults, that the interest increases to the very end of the story, and the one before us is not an exception.

*_The Lovels of Arden_, A Novel. By M. E. Braddon, Author of "Fenton's Quest," "Dead Sea Fruit," "Birds of Prey," "Aurora Floyd," "Charlotte's Inheritance," "Eleanor's Victory," &c. &c. With Illustrations. New York: Harper & Brothers, Publishers, Franklin Square. 1872.

Recollections of Past Life.*—In many respects, Sir Henry Holland's life has been a remarkable one. Though never prominent before the world in any one department of learning, he has yet had the good fortune to be intimately associated with the most distinguished men of his time, and to attain, not only to considerable eminence in his profession, but to positions of honor and distinction in social life. It is impossible in reading his book, not to be particularly struck with the singular facility accorded him even in early life, of association with those of his contemporaries the world holds highest in its esteem. Even when pursuing his medical studies in Edinburgh, though but eighteen years old, he became more or less intimate with Walter Scott, Dugald Stewart, Playfair, Jeffrey, Henry Erskine, Murray, Alison, Dr. Gregory, Henry Mackenzie, Dr. Thomas Brown, Jameson, Leslie, Brewster, etc. During his second year there, he accompanied Sir George Mackenzie on a voyage to Iceland and contributed on his return two or three chapters to Sir George's volume on that country. After graduation—in the fall of 1811—as three years were needed to complete the age required for admission to the College of Physicians in London, he concluded to devote them to travel, and spent the first in an extended tour through Portugal, Gibraltar, Sardinia, Sicily, Zante, Greece, Turkey, and Asia Minor; returning to England with the fleet which conveyed transports containing more than 2,000 French prisoners from Vittoria and the subsequent battles. Somewhat later the same year, he accepted the position of physician to Her Royal Highness, the Princess Caroline, for the time of her residence on the Continent. This position opened to him all the scientific and literary collections of Europe and also brought him in communication with many eminent men. He met Blumenbach at Gottingen, Saussure, Sismondi, Pictet, Prevost, De la Rive and Decandolle in Geneva, Mai at Milan, Mezzofanti at Bologna, Canova at Rome, and the Marchese de Berio at Naples. The third year he made a tour through France, Belgium and Holland, reaching Paris just after the battle of Waterloo, when it was garrisoned by English and Prussian soldiers, and witnessing the removal therefrom of some of its finest works of art. Dr. Holland entered fully upon his professional career in London in January, 1816, when he was 27 years old. During the first four years thereafter, he made annual visits to Spa for purposes of recreation. There he made the acquaintance of many persons of note, especially during the season of 1818, the year of the Congress of Aix-la-Chapelle, not far off. It was this year, returning by way of Paris, that he was made a guest at a dinner party given by the Countess Rumford, the widow of Lavoisier, at which were present Laplace, Cuvier, Gay Lussac, Berthollet, and Prony; as well as Madame Laplace, Madame Berthollet and Mrs. Marcet. Berzelius

*_Recollections of Past Life._ By Sir Henry Holland, Bart., M. D., F. R. S., D. C. L., etc., etc. President of the Royal Institution of Great Britain, Physician-in-ordinary to the Queen. 8vo pp. x, 351. New York, 1872. D. Appleton & Co.

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joined them in the evening. These vacations having been so successful, he decided to take two months every year from his London life for the sole purpose of travel. It is to the faithful carrying out of this resolution for fifty-five years, that we are indebted for the remarkable facts of these "Recollections." "In these annual journeys," he says, "I have visited (and most of them repeatedly) every single capital of Europe, have made eight voyages to the United States and Canada, traveling over more than 26,000 miles of the American Continent, one voyage to Jamaica and other West Indian islands, have been four times in the East, visiting Constantinople, various parts of Asia Minor, Damascus, Jerusalem and Cairo, have made three tours in Algeria, two journeys in Russia, several in Sweden and Norway, repeated visits to Spain, Portugal and Italy, a second visit to Iceland, voyages to the Canary Isles, Madeira, Dalmatia, etc., and other excursions which it would be tedious to enumerate."

In this country, he became the warm personal friend of many distinguished men. He was intimate with Daniel Webster, made Everett's house his home in Boston, was a guest of President Buchanan at the White House, made a journey of 3,500 miles with Mr. Evarts, sat with Mr. Lincoln and Mr. Seward over a log-fire discussing Chattanooga, and observed the stars with Professors Bond at Cambridge and Mitchel at Cincinnati. We well remember his genial face and charming manners at a private reception given him in Albany in 1863. Though at that time nearly seventy-five years of age, he w as still active and vigorous. His intellect was strong and clear, and he showed in conversation the same power of description and brilliance of illustration which even now at the age of eighty-four, make his book so entertaining. Though not a graduate in the classics, his acquaintance and even familiarity with them, was thorough. His habit through life was to allot three days each week to reading Greek and Latin authors, the alternate three being devoted to German and Italian books. Beside these methodized uses of his spare time, Dr. Holland usually kept three or four books in hand on general topics, aiming at wide diversity in their selection. At the close of a most benevolent life, passed largely in the practice of his profession, he now finds himself the recipient of honors from his sovereign, the occupant of several distinguished positions, and the possessor of an abundant competence. And so he looks out over the past, realizing Martial's motto—which he places on his title page—"Hoc est vivere bis, vita posse priore frui," and calmly awaits the nobler future close before him.

COLLEGE RECORD.

Marvin College, (Waxahachie, Texas.)—This institution which expects to go into operation next fall has recently decided upon the chairs which are to be filled by its faculty. They are as follows: 1. President and Professor of Languages. 2. Professor of Biblical Literature, Mental and Moral Science. 3. Professor of Mathematics. 4. Professor of Physical and Natural Science. Preparatory Department: Principals, Male and Female. Primary Department. Music Department. Occupants for these positions are to be elected at a meeting of the Board of Trustees some time in May.

Chicago Theological Seminary,—(Chicago Ill.) At a recent session of the Board of Directors of this institution it was voted after carefully considering the actual necessities of the institution in all its departments to begin at once the raising of $250,000, as a sum needful to enable the Seminary to do its appropriate work. This is requisite in order to pay existing debts; to make immediate increase of the library; to provide a permanent library fund; to purchase a lot and erect a fireproof library hall; to raise the endowment of the present professorships to an equality; to found a new professorship; to establish a permanent fund for general expenses; and to furnish enlarged accommodations for professors and students. Rev. G. S. F. Savage was elected Financial Secretary, and as an inducement to his acceptance Mr. J. W. Scoville. has offerd to pay his entire salary for one year, from July 1st.

Amherst College, (Amherst, Mass.)—Amherst has received a benefaction that will go far to console her for the recent loss of a gift from the State. Mr. Samuel A. Hitchcock of Brimfield, who has long been a good friend to the colleges of the State has recently presented the treasurer of Amherst with $100,000 in available funds. At the same time and place that this gift was made Mr. Hitchcock also gave $50,000 to Andover Theological Seminary. Mr. Hitchcock has on a former occasion given $75,000 to Amherst and $75,000 to Andover. He established the Hitchcock professorship of Hebrew language and literature at Andover, and at Amherst the Hitchcock professorship of theology and of geology. Six scholarships in Amherst owe their existence to his liberality.

Rev. Washington Gladden of New York is expected to address the Society of Inquiry at the approaching Commencement; and Ralph W. Emerson, the two literary societies.

Ingham University, (Leroy, N. Y.)—The Rochester *Express* says the trustees of this institution for the higher education of young ladies, recently held a meeting and transacted business of great importance to the future of the college. Rev. Dr. S. D. Burchard, of New York, resigned as chancellor, that the office might be filled by one whose entire time and energies should be given to its duties. The position was tendered to Rev. L. D. Chapin, of East Bloomfield, who is admirably qualified to fill it—a ripe scholar, a courteous gentleman, with fine executive abilities and marked purity of character, he is just the man for the place. The institution requires an endowment of at least $20,000. This secured, it is believed, its permanent and growing success is guaranteed. Half of the sum was pledged by the trustees, Josiah Letchworth, of Buffalo, giving $5,000. Rev. L. D. Chapin, Hon. John Fisher, of Batavia, and Rev. Dr. C. H. Taylor, of Le Roy, were appointed a committee to take immediate measures to raise the full sum, which, it is quite confidently expected, will be accomplished by the time of the anniversary exercises, in which case, it is understood, Dr. Chapin will accept and take charge of the college.

Notre Dame University, (Notre Dame, Ind.)—A correspondent to the La Crosse (Wis.) *Republican and Leader*, writes as follows in reference to this institution: The University of Notre Dame is located on a slight eminence, two miles north of South Bend, the home of our Vice President. For several years it has been presided over by the Very Rev. Wm. Corby, one of the most generous thorough gentlemen that I have ever known. Under his guidance it has steadily prospered, and has now taken rank among the first institutions of learning in the country. The number of students in attendance is between 300 and 400. They appear to be intelligent and gentlemanly young men, and compare very favorably with the best that I have seen in other institutions. Certainly I never saw in other places so large a number or body of young men among whom vices of all kinds were less prevalent. But this fact is very measurably due to the wise rules and salutary discipline which the authorities of the University enforce.

I know of no other institution of learning in the United States where students may lose less time than in this University, While students have ample opportunity to take as much exercise as may be necessary to preserve health, they yet have facilities extended to them to study twelve hours or more each day. A diligent student ought to learn as much in this University in two years as usually constitutes a three years' course in ordinary collegiate institutions. Three hundred dollars a year pay for the student's tuition, board, lodging, washing, mending, etc. An infirmary—quite a fine and well-furnished building—is located quite near the University, and herein students are very tenderly cared for when they become ill. Students here have no opportunity whatever to indulge or give rein or license to those habits which would lead to dissipation or immorality. Parents feel assured that while here their children are far more secure from vice than they could possibly be even under their own surveillance at home. But not to particularize at too great length in a letter which the few moments at my disposal render it necessary to make brief, I shall content myself with saying that the merits of this University are such, that to make them known would be an act worthy of philanthropy itself to inspire.

Harvard College, (Cambridge, Mass.) We learn from the Boston *Advertiser* that an adjourned stated meeting of the board of overseers of Harvard College was held last Wednesday in the hall of the Massachusetts Life Insurance Company, in State street, the Hon. John H. Clifford, president of the board, in the chair.

After the reading of the records the president of the University presented votes of the Corporation appointing the following lecturers in the law school for the ensuing academic year, and the board concurred therein by ballot, viz: Benjamin R. Curtis, on the jurisdiction, practices and peculiar jurisprudence of the Courts of the United States; George T. Bigelow, on marine insurance, and Benjamin F. Thomas, on the law of wills.

The President communicated the following vote of the Corporation, to which the board assented:

Voted, That hereafter no person shall be held to have graduated at the divinity school, or be entered in the triennial catalogue as a graduate of the divinity school, unless he has received the degree of bachelor of divinity; provided, that this vote shall not apply to persons who are already members of the school in full standing.

The president presented a vote of the corporation revising the statutes and laws of the university, and adopting a code of seventeen statutes in lieu of all existing statutes and laws of the university, and the same was referred to a committee consisting of Messrs. Walker, Gray and Dana.

On motion of Mr. Gray it was voted that William S. Marston and Charles E. Kelley be appointed to the Murry and Leverett Saltonstall scholarships for the current year, and that one-half of the income of said scholarships be paid to each, not exceeding the sum of one hundred and fifty dollars to either.

Mr. Dana reported that pursuant to a vote of the board at the last meeting he appoints the following committee on the co-education of the sexes at the university; Rev. Dr. Clark, Rev. Dr.. Walker, Rev. E. E. Hale, Hon. E. R. Hoar and Francis E. Parker.

A letter was received from the Rev. D. Sweetser, tendering his resignation of a membership in the board; whereupon, on motion of James Lawrence, Esq., the president was requested to communicate to Dr. Sweetser the regret of the board at his illnsss, and that, with a hope that he might be soon able to resume his duties, no action would be taken at this time. The meeting was then adjourned to Wednesday, the 22d instant.

Williams College, (Williamstown Mass.)—We learn from the *Williams Quarterly* that. "The remainder of the Baldwin bequest, amounting in all to twenty-eight thousand dollars, has recently been paid to the College Treasurer. This is, by the terms of the bequest, an addition to the College funds, appropriated to the assistance of students whose circumstances require aid. 'The charity fund now amounts to about seventy thousand dollars, besides the five scholarships, which, with incomes varying from one hundred and seventy-five to two hundred and fifty dollars, were last year raised by the friends of the College. The annual charge of the College for tuition is but seventy-five dollars, and the rent of a suite of rooms containing a study, two bed-rooms and separate fuel closet is but eighteen dol-

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lars a year. Which charges so low, and with such considerable funds distributed to those who need assistance, the proportionately few applicants for it at Williams must receive at present generous help., In this connection we may repeat the determination of the Trustees, that 'no young man of merit shall be obliged to intermit his studies here on account of inability to pay his college bills.' The funds appropriated for this object are the following:—Alumni Scholarship Fund, $10,000; Baldwin Fund, $28,000; State Fund,$7,500; Woodbridge Little Fund, $5,682; Three State Scholarships, $3,750; Amos Lawrence Fund, $2,000; Dewey Scholarship, $1,500; Starkweather Fund, $1,000; Means Fund, $1,000, Olin Scholarship, $1,000; Newton Henry Rosseter Scholarship, $1,000; William Hyde Scholarship, $1,000; Sage Scholarship, $1,000; Cone Scholarship, $1,000; Stoddard Scholarship, $1,000; Homer Bartlett Scholarship, $750; Merriam Scholarship, $550; Barker Scholarship, $500, Mason Scholarship, $500; Bancroft Scholarship, $500; Bela Peck Williams Scholarship, $500; Thos. W. Williams Scholarship, $500."

The lumber has been drawn for the College boarding house. The building will be 42 by 70 feet, two stories high and covered with a Mansard roof. The front part of the lower story will consist of two parlors, 16 by 16, on either side of the hall, and in the rear of this will be the boarding room proper, 42 by 18 feet, and extending transversely across the house. This room will seat 70 persons. Larger accommodations can be had by opening into the parlors directly in front, and the main room can be divided into two parts by folding doors. In the rear of this are kitchens. The upper story is divided into 6 rooms, 3 on either side of a long hall, 9 feet wide. The rooms in the second story will be occupied by some of the professors. Mr. H. B. Curtis is the architect and builder.

Yale College, (New Haven, Conn.)—The names of the candidates for the new members of the Corporation are given elswhere in this issue. The six Senior Senators of the Connecticut Legislature who are to serve as members of the Corporation until next July, have been decided upon as follows: S. Storrs Cotton, Pomfret; Thomas Elmes, Derby; Addison O, Mills, Canton; Marcus Woodward, Somers; Chas. A. Buell, Chatham, and Henry M. Stannard, Westbrook. The first four received the position by virtue of seniority of membership in the Senate, the latter two were chosen by lot. Messrs. Colton, Elmes, and Mills have also been chosen as members of the State Board of Visitors to the Sheffield Scientific School.

After a recess of a week the Law School began again last Monday. In addition to the regular studies, the following gentlemen will lecture during the remainder of the term: Dr. Bacon, on Medical Jurisprudence; Professor Simeon E. Baldwin, on the Constitution; Professor Robinson, on Criminal Law; Professor Platt, on Equity; Professor Bailey on Elocution. The essays for the prizes offered by Governor Jewell, two of $50 and one of $30, will be handed in by the 15th of the month, and the reading of the three best of these will form a part of the exercises at the close of the term, the 17th of July, at which time commencement exercises will be held, as is customary in the other departments.

Professor Wier's lecture in the Art Gallery last Monday evening was upon "The Line." The lecture should have been heard to be appreciated, but it is no undue praise to say that it was one of the most interesting and instructive lectures that has been delivered in any department of the University during the year. It was illustrated with projections upon the screen and was in every way worthy of the close attention it received. The lecture next Monday is to be upon "The Chiaroscuro."

The anniversary exercises of the Theological Department occur next week As has been previously announced, this is the fiftieth anniversary of the existence of the seminary as a distinct department and the exercises are to be of a very interesting nature.

The single scull race for the White Cup took place last Saturday. The weather was cold and uncomfortable and the water was somewhat rough, but the contestants appeared promptly at five o'clock, the time appointed. The entries were H. S. Potter, '72; J. W. Smith, '73; S. L. Boyce, '73; C. Dewing, '73; G. H. Bennett, '74; H. D. Weeks, '74. The course was from Tomlinson's bridge one mile up the Quinnipiac and return. The race was well contested although Weeks struck an oyster stake about two hundred yards from the boat house and withdrew. Potter came in ahead in 16 m., 29 sec., Dewing second, Boyce third, Smith fourth, Bennett fifth.

In Base ball, the week has seen several games, the principal being that on Wednesday last of the University nine with the Mansfields of Middletown in which the former were worsted by a score of 24 to 10. The Harvard nine has formally declined the proposition of Yale to play a series of games this year and has challenged Yale to a single contest on the Jarvis field at Harvard. The Scientifics have resolved to rent the northern part of Hamilton Park for the coming year, for practicing grounds.

The third term catalogue is out. The number of academical students has fallen off during the year from 527 to 496. The Freshmen number 108, compared with 128 in the Fall; the Sophomores have left 131 from 135; the Juniors 128 from 134; while the Seniors remain intact at 129.

The *Yale Courant* says the demolition of the North Coal Yard progresses steadily, and its interior aspect reveals the number of conflagrations to which during past years it has been subjected. Hardly an inch of its interior surface appears untouched by fire, and the torch of the incendiary has been applied at about every part.

The plaster in the North entry of Farnam has had two great come downs of late. The last time the accident happened it completely covered with debris the lower stairway. It is said to be due to the leaky water pipes.

The May *Lit.*, will be out a week from Saturday. The intention of the '73 board is to publish each number upon the Saturday nearest the middle of each month.

The University Boat Club has a good six oared *shell* for sale, at a low cash figure; also a four-oared *barge.* Apply to L. G. Parsons.

The way in which the students spend their Sunday afternoon is diversified in the extreme, and includes every degree in the scale of goodness from "walking abroad" to running a Mission School. Most of them, however, are content to remain in their rooms and sleep or read.

Some Sunday evening during the present term, Prof. Wheeler will address the students upon the Jesuit Missions.

The Berkeley Scholarship was taken by Greene Kendrick, '72. He was the only competitor.

Between thirty and forty Seniors accompanied Prof. Dana npon a geological excursion to Pine Rock, on Saturday.

The dirt has all been removed from the gymnasium lot and base ballists are already playing there.

It is said that the steps of Durfee are superseding the fence as a lounging place.

The lists of class pictures have been distributed, and the Seniors are making out their orders.

Only three essays have been handed in for the Porter prize.

An arrangement has been effected with the E. R. R. by which students or professors can procure tickets to the principal points West at about half rates, if the tickets are procured before May 18th. An agent of the road will be here May 14th, and all information may be obtained from him or by applying any time at 51 Divinity Hall. The tickets are good until September.

YALE PERSONALS.

'22, TODD.—The resignation by Rev. John Todd, D.D., of his pastorate of the 1st Congregational Church in Pittsfield, Mass., has been accepted by his people, with the understanding that he shall be pastor emeritus.

'39, TARBOX.—Rev. Increase N. Tarbox read a paper on "The Ruling Elders in the Early New England Churches" before the New England Historic Genealogical Society at a recent meeting. Dr. Tarbox traced the now obsolete office of ruling elder from the time of, its introduction by William Brewster to its abolishment

'40, GREGORY.—Through an inadvertance, a notice of the resolutions passed upon the death of Dr. Samuel Gregory, late Secretary of the New England Female Medical College at Boston, by the Trustees of that institution was placed under the head "Gleanings" rather than Yale Personals" last week. Dr. Gregory was a graduate of Yale of the Class of 1840. A friend who calls our attention to this inadvertance adds, "He was one of the most unselfish and devotedly Christian men that this world has known."

'55, REV. E. MULFORD, who is the author of the able political work entitled "The Nation," is said to be at work upon a book of theology.

'57, SMITH.—Rev. Wilder Smith, formerly pastor of the Hanover Street Congregational Church at Milwaukee, Wis., has accepted a call to the First Congregational Church at Rockford, Ill., of which Rev. Henry M. Goodwin (Yale, '40) was minister for more than 20 years.

'63, MCNEILLE.—Rev. R. G. S. McNeille of this city was installed pastor of the Porter Evangelical (Cong!) Church in North Bridgewater, Mass., April 25th. Sermon by Rev. E. L. Clark of the North Church in this city.

'66, GOODRICH.—Mr. Edward E. Goodrich of this city, sailed with his mother from New York, May 1st, to be absent in Europe a year or more on account of his health.

'68, ESTY.—Albert H. Esty is studying at Brunswick, Germany.

'68, LEWIS.—Rev. F. B. Lewis lately assistant rector of St. Andrew's (Episcopal) church Meriden, has accepted the position of rector of St. Paul's church, Brookfield, Conn.

'68, TINKER.—A. P. Tinker of Andover Seminary, has received a call from the church at Auburn, Maine. It is also reported that he is to be called to New Braintree, Mass., at a salary of $2,000 and a parsonage.

'69, EWING.—A. H. Ewing, was registered at Rome, in the office of Macquay, Hooker, & Co., on March 18th, last.

'69, GILBERT.—Dr. Sam'l D. Gilbert, who has since graduation spent some time in the hospitals of Dublin and Edinburg, and since last November has been in the hospitals of London, intends to go to Paris early in May, and from thence to Vienna, where he will stay a short time and then go back to Dublin for a month or so, and finally sail for home some time in October.

'69, WAITE.—E. T. Waite has been spending the Winter at Paris.

'70, ANDREWS.—John W. Andrews, who has been spending the Winter at Berlin, has gone to Geneva, to spend a few months.

'70, SCAIFE.—L. L. Scaife, who has been taking a course of law at the Harvard Law School, was admitted to the bar last week. He intends to take up his residence in Boston, or go West.

'71, COOPER.—O. H. Cooper, formerly of the class of '71, and then of the class of '72, but who does not graduate with that class, is principal of an Academy at Woods, Panola Co., Texas. He intends to enter the University of Virginia, next January.

'71, THACHER.—Thomas Thacher who since graduation has been teaching in the Hopkin's Grammar School in New Haven was presented last week, by the members of the fourth class, with an elegant gold-headed cane.

GLEANINGS.

PERSONAL.

— Professor George I. Chace, of Brown University has sent in his resignation.

— Rev. E. W. Fisk, D. D., of Greencastle, Ind., has accepted the Presidency of the Indiana Female College.

—Rev. R. B. Ewing has been elected President of Westminster College, Pa.

— It is rumored that the Rev. Professor Bronson is

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to be deposed from his chair in Kenyon College on account of his "Low Church" views.

— The Rev. Dr. Hamlin, has met with a very good degree of success thus far, in obtaining funds for the foundation of a Boston professorship in Robert College.

— Professor Bascom, of Williams College, has lately been the recipient of a handsomely bound copy of Taine's English Literature, from the senior class.

— Prof. Albert H. Chester, who occupies the chair of agricultural chemistry in Hamilton College, has recently returned from Nevada, where he has been inspecting silver mines in the interest of New York capitalists.

Rev. Dr. L. J. Halsey, of the North Western Theological Seminary, is to deliver the annual address before the literary societies and Dr. M. M. Fisher, the address before the society of religious inquiry at Westminster College, Fulton, Mo.

— Rev. J. H. Bremner, who has recently been elected President of Hiawasse College, near Madisonville, Tenn., does not accept the position, but remains at the head of Cane Creek Academy, on the register or which he has enrolled the names of 322 students within the past three years. There is said to be an urgent demand for a good helmsman at Hiwassee College.

— President Clark, of the Amherst Agricultural College, has been elected president of the Pardue University, at Lafayette, Ind. This university has the whole agricultural college land grant of that State, amounting to 390,000 acres, ample endowments, and an accumulated interest of $50,000 on its bonds, which could be immediately applied for the purchase of apparatus, etc.

— Rev. Gabriel Campbell, professor of Mental and Moral Philosophy in the University of Minnesota, has recently been made a member of the "Philosophical Society" of Berlin—proposed and recommended by Michelet—an honor rarely accorded to an American. Mr. C., who is a graduate of Chicago Seminary, spent the academic year of '70 and '71, in the study of philosophy in that city.

— Professor James B. Dodd, who died in Greensburg, Ky., on the 27th of March, was professor of mathematics and natural philosophy in the Centenary College of Mississippi and in the Centenary College of Louisiana in 1841, and from 1846 to 1855 filled a similar position in Transylvania University, Lexington, Ky. He was the author of a series of mathematical text-books for colleges which were very popular before the war. He left at his death several treatises on mathematical subjects ready for the printer, among which may be mentioned a work on analytical geometry and the calculus.

— Nathaniel F. Moore, who recently died at his brother's residence on the Highlands, N. Y., was formerly president of Columbia College. He graduated at Columbia in 1802, afterwards studied law, and was admitted to the bar in 1805. For fifteen years, from 1820 to 1835, he was professor of Latin and Greek in Columbia College; and for seven years, from 1842 to 1849, he was its president. Besides many pamphlets and occasional essays, President Moore has published a work on "Ancient Mineralogy," "Lectures on the Greek Language and Literature," a treatise on the pronunciation of the Greek language, and an historical sketch of his Alma Mater. He travelled in the Holy Land in 1839.

— The *Golden Age* thus gives its opinion of Prest. Chadbourne: "Prof. Chadbourne, the author of a work on Natural Theology, and another on Instinct, succeeds Dr. Hopkins as President of Williams College. He is a graduate, of the year 1848, an able man and knows it, somewhat crotchety and opinionated, with the college instinct strongly developed. He has been rolling about among the colleges these dozen years until it was impossible to locate him, and our only fear for him and for Williams is that his nomadic habits will prove too strong for the settled life and continuous efforts a successful college administration requires. If he has adhesiveness enough in him to stick to the chair he has accepted he will undoubtedly make a good president."

COLLEGE.

— At Albion College, the ladies occupy four out of seven places in the class day exercises.

— Several young Japanese are soon to enter the Amherst Agricultural College.

Prince Kamehemeha, of the Sandwich Islands, is said to be in San Francisco on his way to Utica, where he is to attend the Jesuit College.

— Rev. George Messenger has been appointed Financial Secretary, and Rev. D. C. Tomlinson Financial Agent of Buchtel College.

— Rev. L. O. Brastow of St. Johnsbury, Vt., will deliver the annual address before the theological society at Dartmouth at the coming Commencement.

—Two boxes of shells containing over two hundred species and about a thousand specimens recently arrived at Ohio Wesleyan University from San Francisco.

— A number of new species of evergreens have been added to the collection on the campus of Ohio Wesleyan University.

The legislature of Maine has just voted to admit women to the State Agricultural College, to be subjected to such labor and study as may be determined by the trustees

Hon. John Conant, of Jaffrey, N. H., has given $48,000 to the New Hamshire "College of Agriculture and the Mechanic Arts," the income to be devoted to scholarships for the aid of students.

— Rev. J. Goble, for a number of years a missionary in Japan recently addressed the students of the University at Lewisburg with the design of interesting them in the missionary work in which he has been engaged.

— Beloit College graduates thirteen at her next commencement. Rockford Female Seminary graduates the same number. It is reported that each fair one has selected a Beloit Senior, and intends to "go for him."

The Fisk Jubilee Singers have started homeward with the $20,000 which they set out to raise, and with which it is proposed to erect a Jubilee Hall, and provide increased accommodations for students, and new advantages in the way of instruction.

— The Bowdoin college boat crew have engaged Robert Fulton, stroke of the champion St. John crew, as trainer. He will commence duty on the 30th, and while "coaching" them, will also train himself for his single scull match with George Brown of Halifax.

— A scientific survey is about to be made by officers of the Imperial Geographical Society of St. Petersburg, of Siberia. The work is to begin in June, and is expected to be completed in the course of two years. Two surveys will be made simultaneously by different commissions, to check one another.

— The Spectroscopic Association of Italy is the title of a new society, the main object of which will be "to enrich science, by the aid of the spectroscope, with new discoveries upon the physical constitution of the sun." The first number of the *Memoirs* of the society has already been published.

— At a recent meeting of the board of Trustees of Miami University, at Oxford, Ohio. Professor Andrew D. Hepburn was elected president of the university. Professor A. L. Coleman, of the University of Virginia, was elected to fill the vacant chair of Greek and Latin literature.

— A dispatch from Springfield, Mass., Thursday May 9th, affirms that representatives of Yale, Harvard, Amherst Agricultural, Brown and Georgetown, D. C., colleges met here yesterday, and after an examination of the courses decided to hold the college regatta on the Connecticut opposite this city July 23d.

— Since ladies are admitted to all the Literary Societies of the Northwestern University the idea of enlivening the exercises by choruses that shall include the whole harmonious diapason, has been carried out. The Hinman Society has purchased a fine cabinet organ, which is played by one of the lady members of the society.

— At the first Commencement of the Evanston College for ladies next June, there will be awarded a prize of $25, for the best essay, given by Mr. A. E. Bishop, of Centenary church, Chicago; a gold medal, given by Dr. J. B. Chess, of Chicago, to the most perfect lady, and two prizes for excellence in painting and drawing, given by Mr. E. H. Trafton.

— A rumor is afloat that a freshman of Harvard College, has proved to be a confidence man and swindler, and after borrowing money from his class-mates cheating tailors, furniture dealers, &c., has fled. Investigation has shown that he owes $1,500, that the names upon his bond were forged. and that last year he played the same despicable tricks at Trinity College.

Four Japanese in Chicago are to reside with Rev. A. W. Henderson and be prepared for the University of Chicago, by John C. Hill. Their names are Malszdaira Tadakadsz, late Daimio of the Province of Shimmabarra, and brother of the late Tycoon; Shibukawa Katszmichi, Inowiye Katszmass, and Chimura Goro, one of the Professors in a University at Yeddo.

The School of Law of the Boston University has been organized and Judge Edmund H. Bennett elected dean. Among the lecturers are Hon. Henry W. Paine, Judge Lord, Hon, Chas. T. Russell, Prof. Frances Wheaton, Judge Reid, and Melville M. Bigelow, Esq., of the Michigan University Law School. The fees are to be fifty dollars exclusive of use of law library and incidentals. A circular, giving all necessary information will soon be published.

— A. D. F. Randolph & Co. have recently published a volume entitled, "Princeton College During the Eighteenth Century." The object of the volume is to show what Princeton has done for the country: first, in recovering its liberties; second, in founding the Presbyterian Church; and third, in establishing the higher forms of academic and collegiate education. This is shown in biographical sketches of all the graduates so far as they could be obtained, from the first class, that graduated in 1748, to that of 1800.

— The Lane Theological Seminary at Cincinnati, O., has sixteen students in the graduating class, three of whom go to the foreign field as missionaries. The assets of the institution in notes and lands are over $300,000 but much of the property is in such a condition that it yields but a small income. The chair occupied by Dr. Thomas is not endowed, and is at present supported by a few who appreciate his valuable services. It is believed however that his chair will soon be endowed sufficietly to sustain him.

— The Board of Trustees of the Ladies' College at Evanston, Ill., has the following officers for the ensuing year: Mrs. L. L. Greenleaf, President, Mrs. Chas. Gray, Vice President; Miss Emma White, Recording Secretary; Mrs. Emily Huntington Miller, Corresponding Secretary; Mrs. E. O. Haven, Treasurer; Mrs. A. J. Brown and Mrs. O. A. Willard, members of Executive Committee; Lyman J. Gage, Auditor. The college has paid expenses during the year past, notwithstanding the severe losses sustained by the great Chicago fire.

— A correspondent in Japan writes: "The 'college' at Yedo is a school of languages and general instruction, and is well supplied with teachers and scholars. A new polytechnic school of somewhat higher grade is just being organized in the same city. Three professors have already been appointed—being M. Lepissier, lately of the Paris Observatory, to the chair of astronomy; ex-Judge Rosenstand, to that of law; and Professor Wm. E. Griffis, formerly of Rutgers College, to that of chemistry and physics. The Mikado was to visit the college and the polytechnic school in person during April."

— The recent speech of Rev. Henry Ward Beecher in favor of opening the public libraries and reading rooms on Sunday leads the Amherest *Student* to fear that there may be trouble between the Trustees and Faculty of Amherst on that point, since Mr. Beecher is a member of the Corporation. The Faculty have already several times opposed any such innovation, and the *Student* declares it shall stand by them. The college Nine is fully organized, and it is said, was never stronger. $5,000 have been raised for an art collection. The Psi Upsilon fraternity hold their annual convention at Amherst this year, during the early part of May.

— By the will of the late Miss Ann Preston, the Woman's Medical College of Philadelphia receives the manikins medicines and books of the deceased. She devises also the interest of $4,000, "to be used annually to assist in the medical education of one good, capable woman who may not otherwise possess sufficient means to pursue medical studies. The corporators of the Women's Medical College shall select from names that may be presented a person to receive this assistance: but if one of my nieces inclines to attend medical lectures she shall have precedence over all other applicants."

— An effort is being made to raise more funds for Johnson College, Missouri. Professor E. W. Hall President of the College, has recently been in New York City for this purpose and some success has been met with. A gentleman who had already given $13,000 has recently given a subscription of $5,000 more on condition that $20,000 be raised from other sources. Another gentleman in Sing Sing has given a subscription of $500 on condition that $1,000 is raised in New York and Brooklyn. $25,000 more are needed to complete the college building.

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For other information concerning the School, send for Catalogues by letter; or after Sept. 8th, apply personally to

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The 104th Annual Commencement occurs this year on WEDNESDAY, June 26th. The next Term begins on Friday, September 6th. Examinations for admission on Thursday, June 27th, and on Friday and Saturday, September 6th and 7th. Candidates must come well prepared. Tuition is $75, and room rent $20 per annum, with liberal allowances in favor of meritorious, indigent students.

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The Collegiate Year of Medical Study embraces a SPRING TERM, in which instruction is given by the Professors, chiefly by daily recitation, from text books, and the regular WINTER TERM, which is a course of Public Lectures.

The Spring Term for 1872 will begin Thursday, March 7, and end July 9.

The Winter Term for 1872–73, will begin Thursday, October 17, and end February 13.

Fees (paid in advance): Matriculation Fee, $5, payable *once* only. For both terms, in one payment, $100. For either term separately, $60. Tickets to the Hospital and Dispensary gratuitous.

For further information and circulars, address the Dean of the Faculty, Prof. C. A. LINDSLEY, New Haven, Conn.

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EXPENSES.—The fee for the full course, including instruction, use of laboratories, apparatus, chemicals, drawing-room, and students' collection of minerals, is $200 per annum. For special students in Chemistry and Assaying, the fee is $200. Special students in Assaying are admitted for two months for a fee of $50. Pecuniary aid extended to those not able to meet the expenses of the School.

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At the close of the Academic year, premiums will be awarded for the best dissertations on subjects to be hereafter announced Two terms annually. Fall term opens Sept. 13th, 1871. Term, $90 per annum. Further information may be obtained by addressing WM. C. ROBINSON, Dean of the Faculty, at New Haven, Conn.

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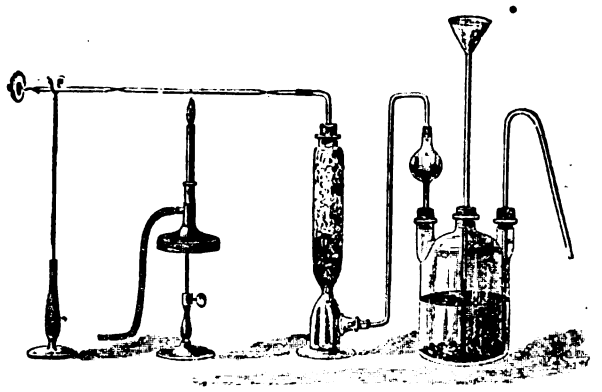

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, MAY 18, 1872. NUMBER 20.

THE STEVENS INSTITUTE OF TECHNOLOGY, HOBOKEN, NEW JERSEY.

The Stevens Institute of Technology owes its foundation to the late Edwin A. Stevens, of Hoboken, New Jersey, who left a block of ground 200 by 425 feet, and a sum of money amounting (with accrued interest) to about $750,000, for the establishment of an "Institution of Learning."

In view of the well known interest which Mr. Stevens had always manifested in the subject of Mechanical Engineering, and the importance to the country at large of a school where thorough instruction in this department might be supplied, the trustees of this bequest, Mrs. Edwin A. Stevens, Rev. S. B. Dod, and Mr. W. W. Shippen, concluded to make the "Institution of Learning" specifically a school of Mechanical Engineering. With this view a faculty was appointed consisting of the following gentlemen:

Henry Morton, Ph. D., President; Alfred M. Mayer, Ph. D., Professor of Physics; Robert H. Thurston, C. E., Professor of Mechanical Engineering, late of the U. S. Naval Engineers; Lieutenant-Col. H. A. Hascall, Professor of Mathematics; C W. MacCord, A. M., Professor of Mechanical Drawing; Albert R. Leeds A. M., Professor of Chemistry; Charles F. Krœh, A. M., Professor of Languages; Rev. Edward Wall, A. M., Professor of Belles-Letters; and the following plan as to a course of instruction which would fit young men of ability for leading positions in the profession of Mechanical Engineering, was laid out:

1. *In Mathematics*, to afford a thorough training in the elementary and advanced branches of this subject so far as these are useful means of investigation and work.

2. *In the French and German languages*, as these are of incalculable value to the engineer and man of science as the vehicles of a vast amount of new information in his special subjects, and also as affording that kind of mental culture which mathematical and physical science, if followed exclusively, would fail to supply.

3. *In Belles Lettres*, as furnishing the means of cultivating literary taste, and a facility in the use of language both in speaking and writing, which are as desirable in the engineer and man of science, as in the classical student.

4. *In Chemistry and Metallurgy*, so as to make the student acquainted with the methods and details of analysis, the reduction and working of the useful metals, and the chemical relations which influence their modes of application in engineering construction.

5. *In Physics*, by a thorough practical course of instruction in Physical Laboratories, in which the students will be guided by the Professor of Physics, in experimental researches as to the laws of nature bearing upon the subjects of their special study not only impressing these facts and laws in the most effective manner, but also affording a training in methods of investigation, which will prove invaluable for the mastery of the new and varied problems of actual work.

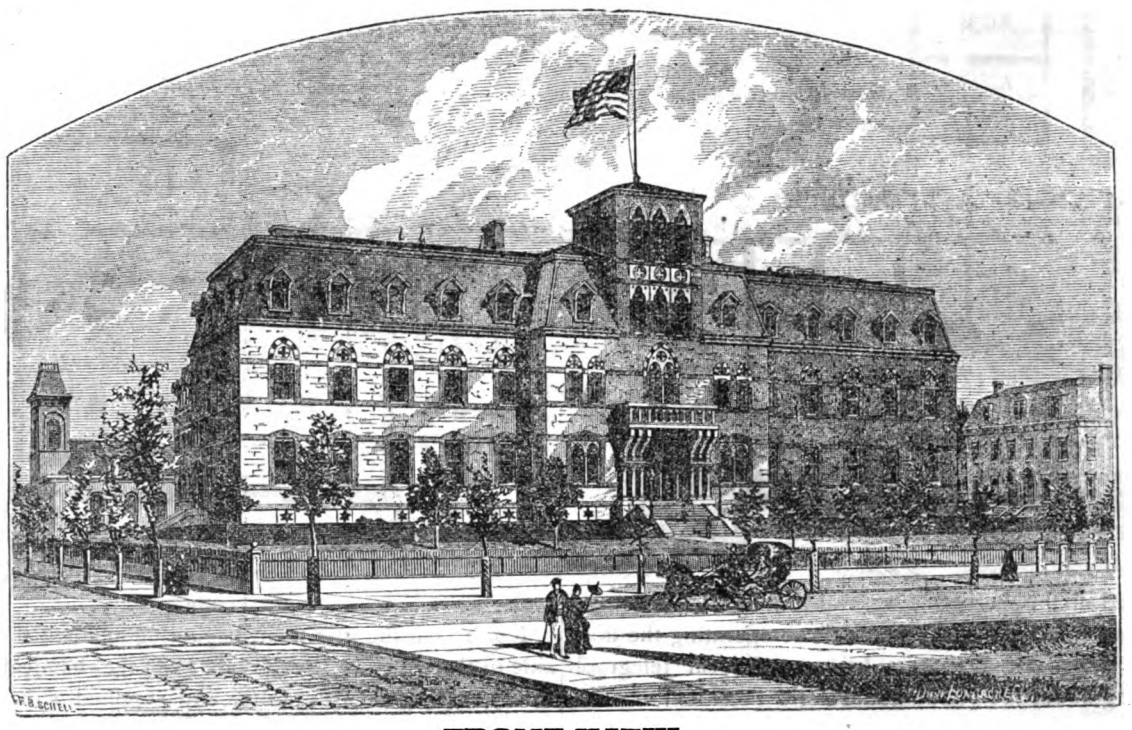
6. *In Mechanical Drawing*, which is well defined as the Language of Engineering, and of infinite service as an aid to accuracy and precision in the embodiment of ideas.

7. *In Mechanical Engineering*, as a special subject, holding of course a most prominent place and involving a thorough treatment of the theory and practice of construction, in all its relations to the engineering science of the present day.

To carry out such a course of instruction, a building provided with extensive laboratories, workshops and other appliances, and also very extensive collections of machinery, models, and apparatus was required; and, accordingly, the building which we shall now describe, was erected and equipped in a manner corresponding with the requirements of the course.

PLATE I.

Stevens Institute of Technology.



FRONT VIEW.

THE BUILDING.

The front of the building, facing south, is seen in Plate I; the rear, from the entrance to Castle Point, (the late residence of Mr. Stevens,) is shown in Plate II. The entire length of front is 180 feet, depth of main building, 44 feet. The depth of the West wing is 60 feet, and its width is 30 feet, while the depth of the centre wing or Lecture Hall is 80 feet, and its breadth 50 feet.

The main building and West wing have three stories and a basement, while the Lecture Hall has but a single floor. Including halls and stairways, the aggregate floor space is a little, (one-fifteenth) short of one acre.

A detailed description of the arrangement of the several floors will be the best means of conveying a correct idea as to the character and extent of the various departments.

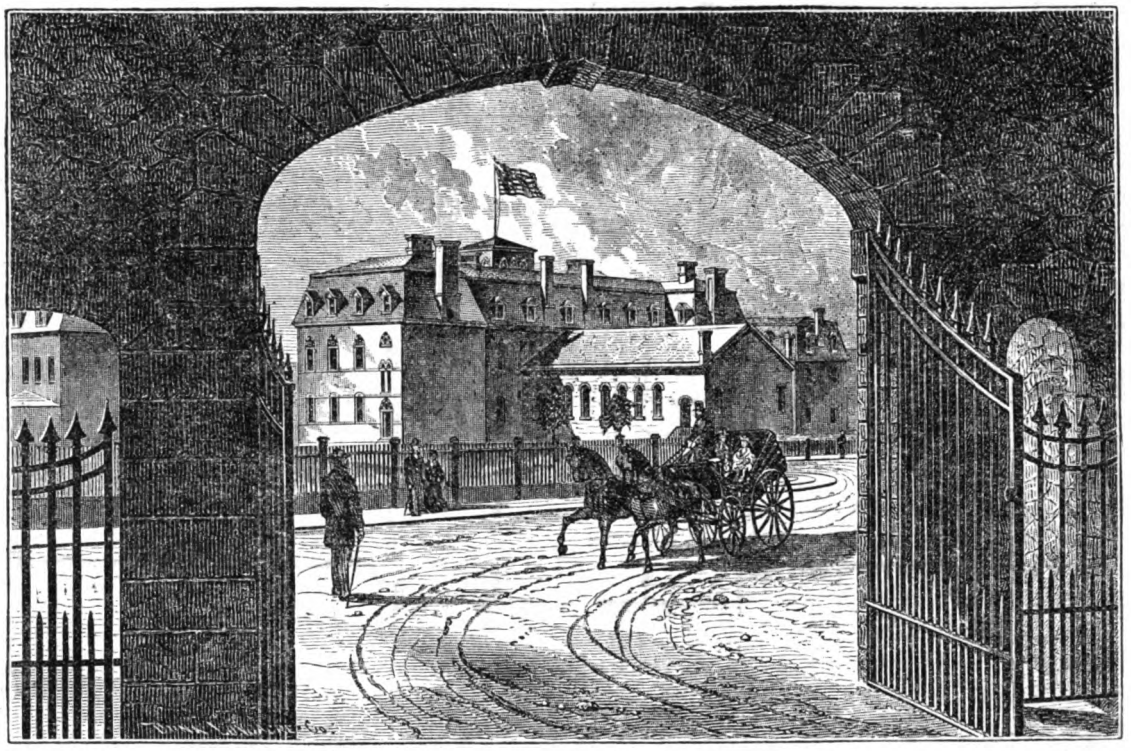
BASEMENT.

Beginning with the basement on the West or Hudson street side, there are under the wing three rooms assigned to various uses, as shown on the plan, Plate III.*

Under the main building there is, first, a large room,

PLATE II.

Stevens Institute of Technology.



REAR VIEW.

in which are located the steam boilers B' (two Harrison boilers of 35 horse power each), for heating the building and supplying the steam machinery; here also are the various metallurgical furnaces.

Two small rooms give storage for fuel, while another

*On the opposite page, wrongly numbered Plate II.

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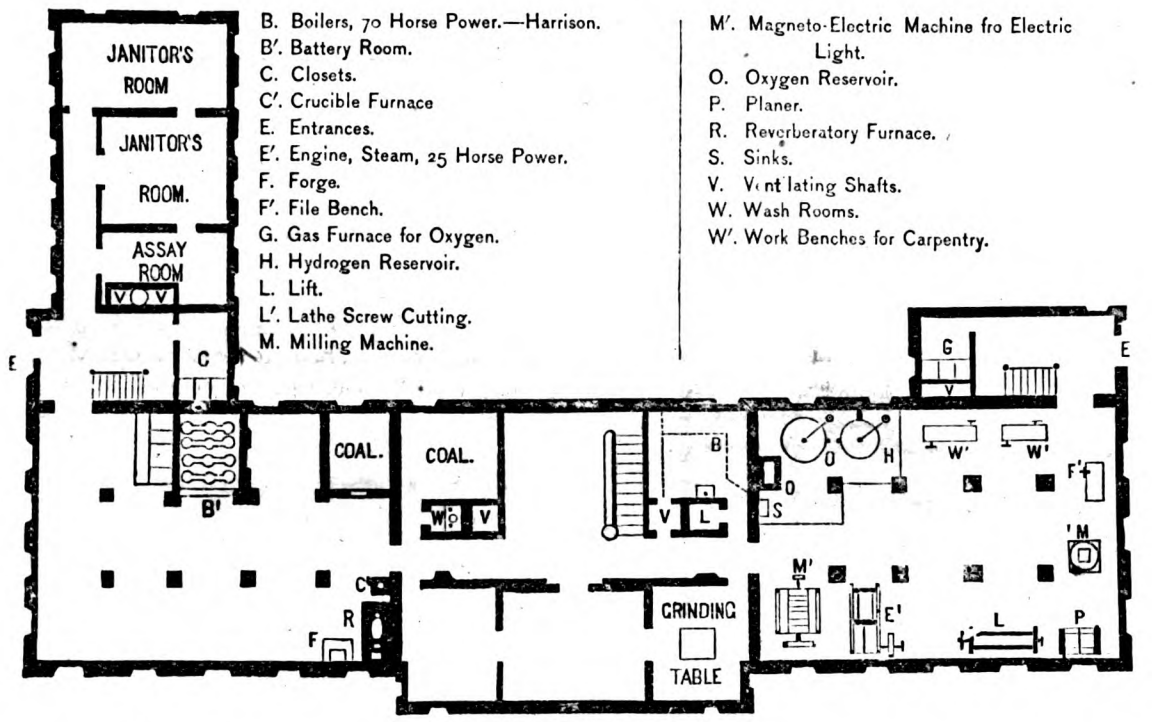
PLATE II.

Stevens Institute of Technology.



BASEMENT.

is fitted up for glass grinding, and another, B, is arranged for galvanic batteries, such as those operating the door bells, gongs for recitation hours, and local telegraph passing about the building and to the President's house, as well as the very large battery, from which heavy conductors are permanently laid to the various lecture rooms.

The large room I is a machine shop, containing the steam engine E', and a set of machine tools, including screw cutting lathe, planer, gear cutter and milling machine, a drill, a punch, a transmitting dynamometer and hand tools.

At O and H are gas tanks of oxygen and hydrogen, each supplying 100 cubic feet, under a pressure of three quarter pounds to the square inch. From these, pipes are laid to all the Lecture Rooms in the building. A small furnace for the manufacture of oxygen is placed at G, and work benches at W W.

FIRST FLOOR.

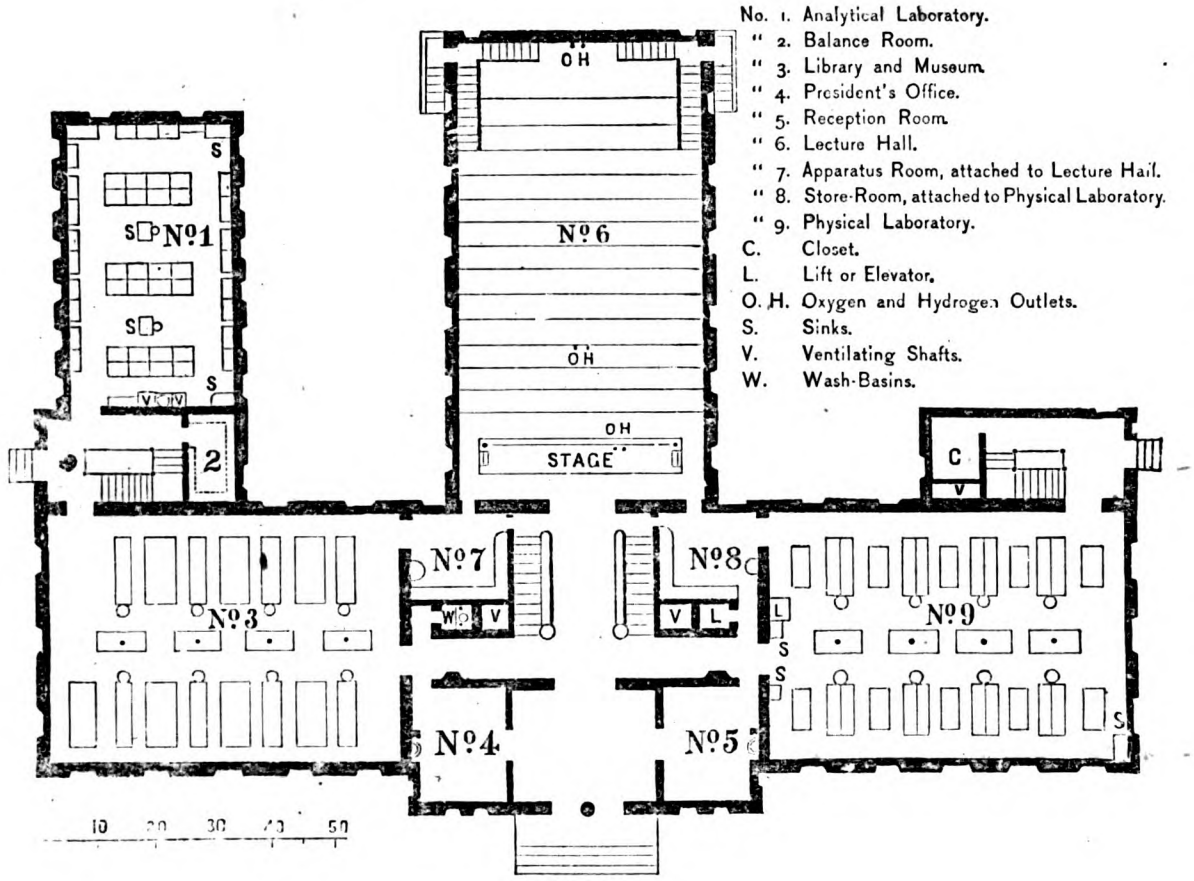
No. 1. On the first floor, beginning again at the west side in the wing, we have (Plate IV*) the chemical laboratory, arranged with tables, and supplied with water, gas, sand baths, drying closets and filter pumps in the usual manner.

No. 2. The Balance Room, with a set of fine balances by Becker.

No. 3. The Library and Model Room, divided by

PLATE III.

Stevens Institute of Technology.



FIRST FLOOR.

cases into ten alcoves, which contain glass enclosures for large models and instruments, and having reading tables in the middle of the room.

No. 4. The President's Office.

No. 5. The Reception Room.

No. 6. The Lecture Hall, having a stage provided with water, gas, steam, galvanic battery connections, and very efficient means of illumination by oxygen, lime and electric lights, both for general purposes, and the especial requirements of experimentation.

No. 7. Small Waiting Room connected with Lecture Room.

No. 8. Store Room, connected with Lecture Room and Physical Laboratory.

No. 9. Physical Laboratory, divided by cases into ten alcoves, each devoted to some special subject of research; such as—1, Molecular Physics; 2, General laws of Statics and Dynamics; 3. Hydrostatics and Hydrodynamics; 4. Pneumatics; 5. General laws of heat; 6. Special relations of heat to steam; 7. Electrical Measurements; 8. Magnetism; 9. Sources of Electricity; 10. Light. Other departments of the Physical Laboratory have been placed in other rooms, as will be seen further on, and a more complete description of the entire Physical Department will be given subsequently.

SECOND FLOOR.

At the west end of the second floor is located, in the wing, No. 10 (Plate V), the Chemical Lecture Room, provided with a lecture table with pneumatic tank and a wash basin and also with a glass closet having a downward draught for escape of fumes. On this table are laid, also, ordinary gas as well as Oxygen and Hydrogen under pressure (vacuum) from a Bunsen Pump, compressed air for the same, steam and galvanic battery. Adjacent to this Lecture Room is a small store room (No. 10'), fitted with closets for the various large pieces of apparatus required in the chemical lectures.

In the main building, next in order, is No. 11, devoted to the Mathematical Department, fitted up with desks, blackboards, etc.

No. 12 is devoted to Mechanical Engineering, and is supplied with blackboards, tables, cases of models by Schröeder, Salleron and others, and a collection of working drawings.

No. 13. Private room or study of the Professor of Mechanical Engineering.

No. 14. Museum or cabinet of fine optical instruments, consisting in the first place of the entire optical collection made by Mr. Bancker, of Philadelphia, said by the Abbe Moigno (see Cosmos, 1859, p 577) to be "the most numerous and brilliant that exists in the world," and supplemented by a great number of new instruments.

No. 15. Private room or study of the Professor of Physics.

No. 16. Lecture Room of the Department of Physics. This is provided with a lecture table, having pneumatic tank and basin, and with ordinary gas (oxygen and hydrogen), under pressure, steam, vacuum, compressed air, and galvanic battery laid on; and has the seats arranged on inclined platforms, and is provided with a screen for optical experiments and projections, which can be lowered in front of the case for apparatus at the back of the table. The adjacent room,

No. 17, is furnished with extensive cases for apparatus, and communicates by a special lift or dumb waiter with the Physical Laboratory below.

No. 18 is also a Lecture Room, fitted up in all respects like the preceding, and used by the President for his lectures in the department of Mechanics, and for his individual researches.

No. 19, is a small workshop attached to the preceding, and containing a lathe and file bench.

THIRD FLOOR.

Beginning again at the extremity of the west wing—(Plate VI.*)

No. 20 is a Laboratory devoted to the individual use of the Professor of Chemistry.

No. 21 is his study and library.

No. 22 contains the cabinet of minerals, and is fitted up for examination of new specimens.

No. 23 is the wash room.

Nos. 24, 25, 26 are assigned to the Department of Drawing.

*Wrongly numbered Plate III.

*Wrongly numbered Plate IV.

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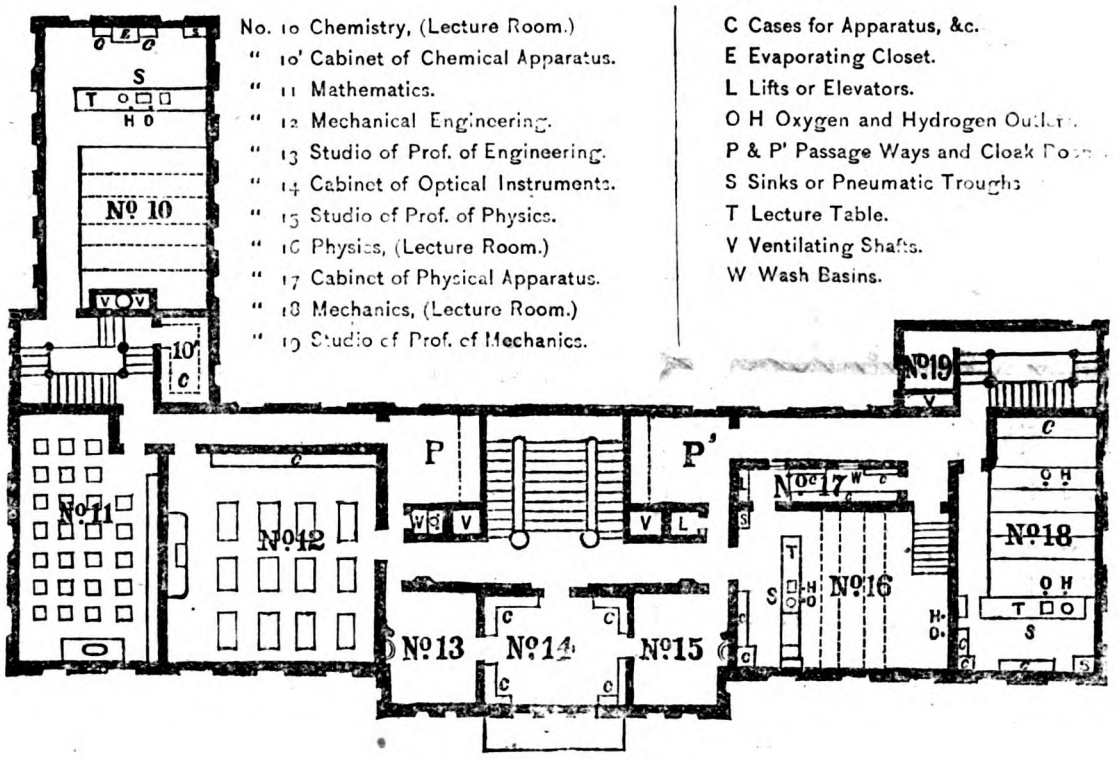
PLATE V.

Stevens Institute of Technology.


No. 10 Chemistry, (Lecture Room.)
" 10' Cabinet of Chemical Apparatus.
" 11 Mathematics.
" 12 Mechanical Engineering.
" 13 Studio of Prof. of Engineering.
" 14 Cabinet of Optical Instruments.
" 15 Studio of Prof. of Physics.
" 16 Physics, (Lecture Room.)
" 17 Cabinet of Physical Apparatus.
" 18 Mechanics, (Lecture Room.)
" 19 Studio of Prof. of Mechanics.
C Cases for Apparatus, &c.
E Evaporating Closet.
L Lifts or Elevators.
O H Oxygen and Hydrogen Outlets.
P & P' Passage Ways and Cloak Rooms.
S Sinks or Pneumatic Troughs
T Lecture Table.
V Ventilating Shafts.
W Wash Basins.
No. 10
No. 11
No. 12
No. 13
No. 14
No. 15
No. 16
No. 17
No. 18
No. 19

SECOND FLOOR.

No. 27 contains the stairway to the tower.

No. 28 is assigned to the department of Belles Lettres.

No. 29, to Electrical Measurement, and is supplied with a complete outfit of the most delicate instruments for this purpose, by Elliott & Bros., of London.

No. 30, store room.

No. 31, to Photography, with dark closet, washing trough, etc.

No. 32 is assigned to the Department of Languages.

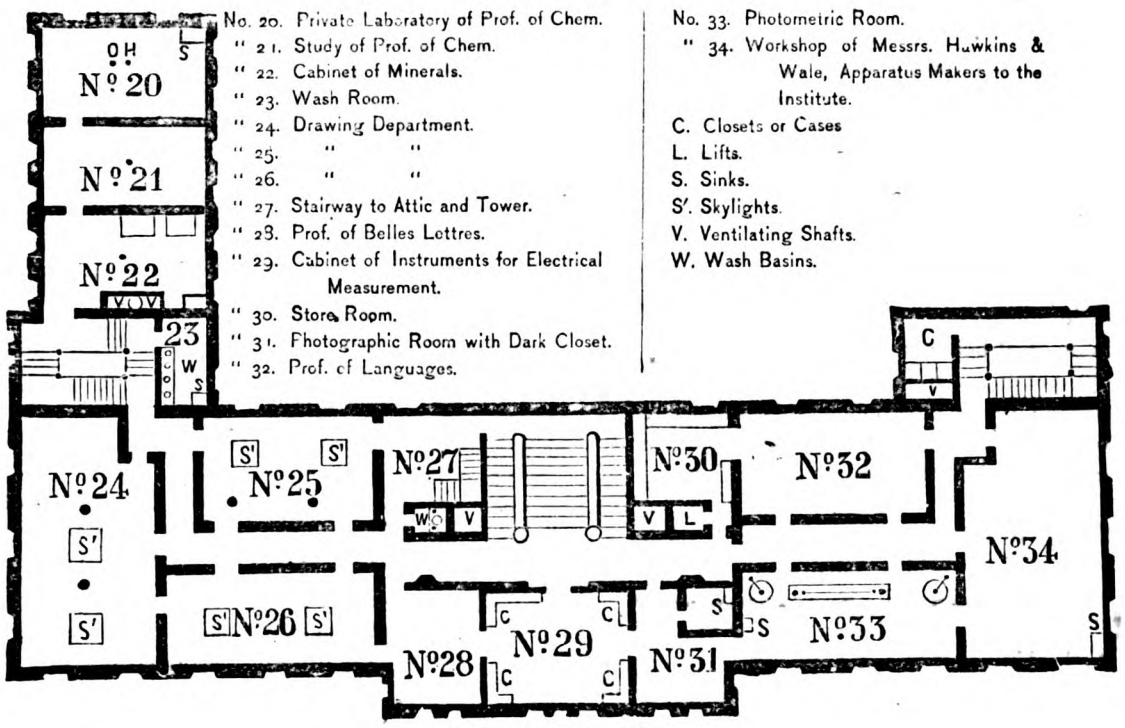
No. 33, to Photometry, with a full set of apparatus, by Sugg, of London.

No. 34, Workshop of Messrs. Hawkins & Wale.

The above minute description in connection with the accompanying plans will give some idea of the completeness of the building, and its fixtures. The plates will bear careful study. We shall give next week an illustrated article on the collections of the various departments of the Institute, which will serve to indicate the care and attention which had been bestowed in securing appliances to assist in instruction.

PLATE IV.

Stevens Institute of Technology.



THIRD FLOOR.

GERMAN UNIVERSITIES.

[The following in reference to the New University of Strassburg in particular, and other German Universities in general, is from a recent number of *The Nation*.]

The reöpening of the University of Strassburg under German auspices has been heralded by the usual announcement of lectures to be delivered at the university in the summer term of 1872, from May 1 to August 15. The only references in its seventeen pages to the transition from a French to a German university are put incidentally, as thus: The professors of the former Faculté de Médicine and the Ecole de Pharmacie will complete the courses of lectures already begun in the French language, and the lectures of Professor Bergmann, on the Growth and History of the French Language, will be read in French, if desired. The fact that the faculty is a new one, brought together from other universities and by other than the ordinary influences, is shown in the addition to the name and title of each professor of the university from which he came to Strassburg. There are seven professors of Theology, and five of them belong to Strassburg, a relic, no doubt, of the old Protestant element there before the war; but the other faculty, of the Catholic school, will probably soon have its quota of German professors brought together from Catholic Germany. In the Law Faculty, of nine professors, three only are from Strassburg; in the Faculty of Medicine, with nine professors, one only is a Frenchman, and he comes from Lyons; in the Faculty of Philosophy there are sixteen professors, of which number five are from Strassburg; and in the Scientific School, of ten professors, but one is from Strassburg. The university fraternity of the professors thus brought together by the German Emperor from all parts of his Empire and from German schools outside of it, serves to show how the German universities count in their number all German-speaking countries, no matter under what flag or crown. There are representatives in Strassburg University from its elder sisters of Würzburg, Kiel, Königsberg, Prague, Freiburg, Hamburg, Breslau, Tübingen, Dorpat, Bern, Zürich, Lyons, Carlsruhe, Greifswald, Athens, Bonn, Treves, Berlin, Aix-la-Chapelle, Halle, Gratz, Heidelberg, and Oxford, which promises to lend Max Müller for the summer. It is thus seen that besides those from Prussia and even Germany, in its broadest sense, there are German professors from Russia, Austria, Switzerland, Greece, England—and even from America, in the person of Dr. von Holst, professor extraordinarius—brought together to transfuse German blood and learning and science into the reconquered provinces of Alsace and Lorraine. The fact that a faculty of 51 professors could thus be collected, of whom only 15 belong to the city in which the university is situated, shows how large a force there must be in Germany proper from which the Government is free to draw its supply of teachers for the new school.

—

The twenty-eight German universities, indeed, including in the list those of Germany, Austria, Switzerland, and Dorpat, count nearly 2,500 professors of all grades—that is, the professors proper, who are paid by the Government, and constitute the governing body. The extraordinary, or, as we should say, assistant professors, who sometimes receive a regular salary, but a very small one, and the private tutors, teachers of languages, and other subordinates and their students, count in theology—native Catholics, 1,000; foreigners, 100; native Protestants, 1,400; foreigners 600. In law, natives, 3,200; foreigners, 875. In medicine, natives, 3,700; Vienna alone has more than 1,300; foreigners, about 1,000. In philosophy and philology, natives, 3,700; Berlin has nearly 1,000; foreigners, over 1,100—in the rough thus:

Catholic Theology,	1,100	
Protestant "	2,000	
		3,100
Law,		4,075
Medicine,		4,700
Philosophy and Philology,		4,800
Total Students,		16,675

The calendar also notes the fact that Giessen sent 72 students to the army; Jena, 131; Leipzig, 400; and Tübingen, 125—a list that is confessedly imperfect, for Berlin, and Bonn, and Breslau, and Erlangen, and Freiburg, and Göttingen, and Greifswald, and Halle, and Heidelberg, and Kiel, and Königsberg, and Munich, and Münster, and Rostock, and Würzburg, must have their roll of honor too. Besides all these, there are long lists of technical schools in Germany for architects, engineers, business men, soldiers, farmers, musicians, sailors, surgeons, gymnasts, and for mechanics, designers, telegraphers, beer-brewers, book-keepers, chemists, weavers, stenographers, artists, wood-cutters, builders, pharmaceutists, printers, sewing-women, glass-makers, and for women in various useful branches of arts and sciences, mechanical trades and pursuits. It is not wonderful, therefore, that the census of the literary productions in Germany should count over 10,000 works in 1870—1,400 in theology, 100 in philosophy, 1,000 in

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"pedagogy" (the art and science of teaching), 700 in history, 1,000 in law, 100 in mathematics, 250 in geography, 250 in war, 400 in medicine, 500 in natural history, 300 in modern languages, 400 in technical education, 200 in architecture, 350 in agriculture, 100 in woods and forests, 275 in literature, 800 novels, 350 in fine arts, 275 in popular works, 275 in young folks' literature, 390 mixed works, and 250 maps. The impulse likely to be given to education by relieving it from the hard pressure of church control is pretty sure to be felt throughout the Empire, and the prospect of a sharp contrast between the "reconquered" provinces of France and their neighbors is likely to attract attention and criticism of the comparative merits of French and German systems of government and education.

KENTUCKY UNIVERSITY.

BY J. B. TAYLOR.

In 1855, in the midst of the quiet pursuits of a farmer, John B. Bowman, of Mercer County, Kentuckey, conceived the project of founding in his native state a good University. Colleges and the college spirit were at a low ebb in the State, and the prospect seemed extremely small for founding any new institution. Mr. Bowman was a graduate of Bacon College at Harrodsburg; and a few years before had seen his Alma Mater expire. Transylvania University at Lexington, had led a fitful and unsuccessful life, in the hands of Methodists, Baptists and Presbyterians. And Centre College at Danville, a Presbyterian institution, and the leading one of the State, had already seen its palmiest days and entered upon a manifest decline. The first two seemed to stand as monuments of warning against any new attempt, and the latter seemed to be gradually starting toward the same end. Besides, Mr. Bowman was narrowed in his field by his intention to build up the new University in the interest of the Christian Church, of which he was a member. He did wish to build up something broader in its foundation and work than simply a denominational institution. He wished to found a "People's Institution" and in the end a "great free University;" but he wished his church to be the main donors, so as to control the institution, have the honor of giving the gift to the people and receive the reflex benefit of doing so. Resolved upon giving his life to the work, Mr. Bowman entered the field, discouraging as it seemed, and had the astonishing success of raising in one hundred and fifty days of effort, one hundred and fifty thousand dollars. These funds were gradua'ly added to. The Bacon College property was given up to the new enterprise; and there, in 1859, a College of Arts and Science was established as a stepping-stone to the University, for which the Legislature had granted a liberal charter. Mr. Bowman continued his solicitation, his aim being to raise at least half a million dollars of endowment. While matters were being pushed gradually forward the war came on and held things at a stand-still till its close. In 1865 the Trustees of Transylvania University intimated a willingness to transfer their charter and property to the Kentucky University upon the condition that the latter should be located at Lexington. The old Bacon College had a short time previously been accidently burned, and a meeting of the locating committee of Ky. University was called at the State Capital to consider the timely offer. An unexpected denouement followed. The legislature had just entered upon the consideration of a proposition from Congress to give the state 330,000 acres of land, the proceeds of which were to be applied to the establishment and support of a College of Agricultural and Mechanical Science. The Legislature did not feel ready to comply with the conditions of the grant. Mr. Bowman with the promptness and boldness characteristic of the man, proposed to take the new college as a department of the Ky. University and to locate the whole at Lexington, pledging the University to give free instruction in that department to three hundred students selected by the State and to meet in full the requirements of Congress, and binding himself to raise one hundred thousand dollars for the purchase of an experimental farm. The proposition was accepted by the State, Mr. Bowman's action ratified by the Curators of the University, and the land funds delivered over to them. The one hundred thousand dollars was raised and with it was purchased on the outskirts of Lexington a tract of 433 acres of superior land (including "Ashland" the homestead of Henry Clay); and on it now stands the machine shop of the Agricultural and Mechanical College and the former residences are turned to College uses.

The College of Arts and Sciences was moved into the old Transylvania building and now stands as the department of Arts, Literature and Science in the University. There have been established in addition a College of the Bible, a Law College and a Commercial College. It is in the plan of the University to add in the future a Medical and a Normal College.

Each College has its own Faculty to which its students are directly answerable, while all are united under the general government of a Board of Curators whose representative in the immediate supervision of the institution is Regent Bowman.

A number of the Professors are at once members of the Faculties of two or more of the colleges; but this arises out of the plan of giving each a specialty and extending him with his specialty into each department needing it. The whole number of instructors is about thirty. To the personal knowledge of the writer, there could be picked out of the list quite a bevy of fine scholars, and men well qualified to teach; and it is the general verdict of those who have an opportunity of knowing, that it is altogether a well-manned institution. The yearly presence of from six hundred and fifty to seven hundred students attests its popularity. The present endowment of the University, which, with the tuition of pay students yields an income, is about $400,000, and the value of its property amounts to an equal sum. Regent Bowman hopes before many years to supersede the present temporary, though comfortable quarters of the colleges with large and commodious new buildings. With Regent Bowman at her head and willing still to give his energies gratuitously to her service, Ky. University may hope for still better things.

The only doubt which can arise as to her future comes from the strong effort which is being quietly made by a party in the Regent's church to remove him and regulate the University by a more strictly sectarian and a more short-sighted policy. Regent Bowman has seen that an institution seeking the patronage of the whole state and aiming at being such that the whole state may feel a proprietorship in it, must not have a too sectarian caste; and with a far-seeing policy, while he has reserved the College of the Bible for his church, he has applied no exclusive denominational test in forming the Faculties of the other department. If the effort to force the Curators to remove him should succeed the popularity of the University will be narrowed, she will lose the remarkable financial talents of him who has so successfully built her up, and some of her ablest men; and Kentucky University cannot be what she hopes. If Regent Bowman continues in his position and his policy prevails, the past is sufficient guarantee for the future.—*Alumni Journal.*

LARGE AND SMALL COLLEGES.

Bishop Clark of Rhode Island gives his opinion of the relative merits of large and small collegiate institutions as follows: All the apparatus and appurtenances of a great college are likely to be more elaborate and complete. There would be no Bodleian Library if the colleges of Oxford were scattered all over England. Each of these colleges is, in certain respects, complete in itself; but they are like the States in our Federal Union, most of which by themselves would make a very inferior principality, while all attain a degree of dignity and respectability from their connection with a grand central nationality. Great wisdom is shown by the directors of Harvard in their efforts to gather around the nucleus of that institution as many *outside* schools and seminaries as they can. Yale has its Academical Department, its Sheffield Scientific School, its Peabody Museum, and will soon have its Winchester Observatory; it has its Law Department, its Medical School, its Theological Seminary, its School of Fine Arts, and its Philosophical Department, including, as far as organized, classes and courses of study for graduate students in the Scientific School (as the Schools of Engineering and Chemistry) a School of Philology, fully organized, a School of Mathematics and Physics, and a partially organized school in which History and English Literature and Politics are taught, which, as President Porter says, it is hoped may be organized as a School of the Moral and *Political* Sciences. It is true that institutions of learning must be small before they can become great, and in our newer settlements we must be content to begin in a humble way; but the trouble is that there are so many colleges which are old enough to have attained a respectable stature, yet stopped growing long before they had reached proper dimensions. Every one of those must have lands and buildings and libraries and apparatus and endowments, which endowments must be all the greater in proportion as the revenue from tuition is diminished. The cost of supporting five hundred students in ten different institutions is of necessity vastly greater that if they were all congregated in one college. It requires as much bread and meat to feed a professor who looks after twenty scholars as to support one who teaches a hundred. As good an apparatus is needed to illustrate the sciences in a small college as in a large one. The individual student should have the same opportunity for consulting books, whether he belongs to a class of twenty or two hundred. These considerations should be carefully weighed before we establish new colleges in the older parts of the country.

THE ENGLISH LANGUAGE IN INDIA.

It is well known that the British Indian Government has for a number of years, been pushing the work of secular edncation. Schools of different grades have been established in the cities and towns, and in a great many of the larger villages of India. In the village schools, instruction is given in the vernacular only; but in the larger towns and cities, English is also taught, and in the High Schools English is the only medium of instruction. From the High Schools, pupils go up to the Universities matriculation. In each of the three Presidency capitals—Calcutta, Bombay, and Madras—a University has been established; under the supervision of these institutions, the pupil is conducted through the higher branches of professional or literary training. No instruction is given at the University; but a certain standard is established to which all who seek for matriculation must have attained. And after the matriculation examination, the students pursue certain lines of study prescribed by the University, in which, at proper times, they are examined, with a view of receiving degrees. Without describing any further the course of instruction imparted under the direction of these Universities, it is sufficient to say that English forms a very prominent part of it. And even those who apply for matriculation are required to possess a fair knowledge of the English language. At the University of Bombay, at each one of the last three matriculation examinations, between eight hundred and a thousand young men have presented themselves. At the Calcutta University, 1,900 came up in 1870; concerning the Madras University we have not figures at hand. It must not be supposed that these all passed; probably not more than half of them were successful, perhaps not so many. But the disappointed candidates will come up again at the next examination; and even if the degree of proficiency in English was not, in the case of so large a number, very great, we still can form some conception, from these figures, of the extent of English education among the rising generation of India. These young men are mostly Brahmans, though Musalmans, Parsis, Jews, and Christians, both Protestant and Roman Catholics, are to be found among them.—*Rev. Charles W. Park, in The Advance.*

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SCIENTIFIC.

Curious Habits of a Snake.—Professor E. D. Cope communicates to the *Naturalist* some facts concerning a beautiful green and yellow snake (*Oyclophis æstivus*) which Dr. Yarrow sent him from Fort Macon, N. C. Its color and form suggested that it was arboreal in its habits; but when confined in a Wardian case, it lived mostly underground. It had a curious habit of projecting its head and two or three inches of its body above the ground and holding itself for hours rigidly in a single attitude. In this position it resembled very closely a sprout or shoot of some green succulent plant, and might readily be mistaken for such by small animals, who would thus be lured to their destruction.

Magnetization of Heat.—Professor Tyndall, in one of his Royal Institution Lectures, performed the remarkable experiment of magnetizing a heat-ray, in precisely the same way by which Faraday magnetized a a ray of light. A parallel beam of light from the electric lamp was passed through the solution of iodine in carbon disulphide, to remove from it all light-rays. The dark rays thus obtained were then passed through a Nicol's prism, and afterwards through a piece of Faraday's heavy glass, placed between the poles of an electromagnet; next they were passed through a second prism and were finally received upon one face of the thermopile, which they warmed. Rays of radiant heat from a cube of warm water were then allowed to fall upon the other face of the pile, and the heating power was regulated by a square disk, which could be placed so as to cut off more or less of the rays at will. Thus the two faces of the pile were brought to the same temperature, and then there was no deflection of the galvanometer needle. Under these conditions, when the electromagnet was excited by the passage of an electric current, so that the piece of heavy glass was placed in a powerful magnetic field, at once there was a deflection of the needle showing that some influence had been exerted on the radiant heat by the magnetism. This experiment was all the more complicated because a very small and sensitive galvanometer had to be used. Prof. Tyndall, therefore, had to illuminate the little dial of the galvanometer with one of his electric lamps, and to throw an enlarged image of the dial upon the screen by means of a lens and a plane mirror placed at an angle of forty-five degrees; thus the movements of the needle were made visible to everybody present.

The lecturer said that the thing called radiant heat was part and parcel of the radiations from luminous bodies. At the other end of the spectrum, beyond the violet rays, there were some feeble rays of radiant heat: but in the short range of the visible spectrum lay all that wealth of color which is the chief source of beauty in nature and in art. If they asked him how came the light to be thus composed, and how it is that external nature so sifts this light as to give to the flowers of the field and the leaves of the forest trees their wealth and beauty, and how it comes to pass that we have a sense of the beautiful which has grown up in the midst of these agencies, and how it is that man derives perfection and elevation of mind from the contemplation of this beauty, he would answer that the cause must be left for philosophers to discover. He thought, nevertheless, that they would be able to give but an approximate solution, and that the real root of the matter would forever lie beyond them.—*British Journal of Photography.*

Constituents of Tobacco Smoke.—A recent number of the *Archiv der Pharmacie* contains a paper by Vohl and Eulenberg upon the chemical composition of tobacco-smoke. They produced the smoke from strong tobacco containing four per cent. of nicotine, by burning it, one portion in a pipe, the other as cigars. This smoke was passed through potash solution to remove the acid bodies present, and then through sulphuric acid to collect the alkaline bodies. The gases which escaped were oxygen and nitrogen,—from the air—carbonous oxide, and marsh gas; upon the surface of the potash solution, oily, semi-solid hydrocarbons collected. These were removed, and the solution—after distillation—treated with sulphuric acid and again distilled. Gaseous bodies, as carbonic gas, hydrogen cyanide (prussic acid) and hydrogen sulphide; and liquids, such as formic, acetic, propionic, butyric, and valeric acids, and phenol (carbolic acid), and creasote, were thus obtained. The sulphuric acid, through which the smoke had passed, was made alkaline with potash, and the oil thus separated, yielded when distilled, the following bases, known as the picoline series: Pyridine picoline, lutidine, collidine, parvoline, coridine, rubidine, and viir dine. Not a trace of nicotine was found anywhere. In the smoke from a pipe, the proportion of these volatile bases, especially of the volatile and stupefying pyridine, is much greater than in cigar smoke, which contains less pyridine and more collidine. Hence the well-known fact that stronger tobacco may be smoked in a cigar than can be in a pipe.

The disagreeable effects of tobacco upon the incipient smoker, and the chronic symptoms appearing in excessive smokers, appear therefore to be due, not to nicotine, but to the pyridine and picoline bases which are present. Many of these have a high boiling point, and resemble nicotine closely, both in smell and in physiological action. They produce contraction of the pupil; difficult breathing, convulsions and death. They act less rapidly than nicotine. Moreover, a similar series of bases was produced in the same way from dandelion, willow wood and stramonium, and found to have similar, though less marked effects. The authors think that the action of opium even, when smoked, is due, not to its alkaloids, but to these volatile bases produced when it burns. The differences in effect between it and tobacco, are due to differences in the quantity of the various bases present.

Indeed, in the opinion of these investigators, the narcotic action of tobacco is erroneously attributed to nicotine, since their analysis of snuff showed it to contain but from .0392 to .062 per cent. of it; while in some specimens of the strongest chewing tobacco, there was but a trace of this alkaloid, and in others, none at all. They attribute the effects of swallowing tobacco-juice also to these pyridine and picoline bases.

The Temperance Question in New England.—At a recent meeting of the Boston Society for Medical Observation, Dr. Henry I. Bowditch read an able and exhaustive paper on Intemperance and its treatment. Dr. Bowditch, it will be remembered, is the Chairman of the efficient State Board of Health of Massachusetts. This Board some time ago, issued a circular of inquiry which aimed to learn, (1.) the nature and character of the stimulants used by various nations and the effect of such use upon the health and prosperity of the people; and (2.) the relative amount of intoxication in such countries, compared with the United States. This circular was sent to thirty-three Resident American Ambassadors, and to one hundred and thirty-two consuls, beside a few others whose positions or opportunities made their opinions of value. Replies were received from fifty-two different countries, embracing Europe, Asia, Africa, South America, Canada, West India Islands, Atlantic Islands, Sandwich Islands, Malta, Australia and the United States. This correspondence is printed in the Second Report of the Board above referred to. In the Third Report—presented to the Legislature in January, 1872—the chairman, Dr. Bowditch, gives a thorough and complete analysis of this correspondence which is at once clear, candid, and convincing. By the possession of a mass of facts such as has never before been brought together on the subject of intemperance, he is able to speak authoritatively upon the subject, and his conclusions are those, not of a partisan, but of a scientific investigator. We are glad, therefore, to place these conclusions before our readers. We quote them from the *Boston Medical and Surgical Journal*:—

First. Stimulants of some kind are found to exist and to be used at times to excess in every quarter of the globe.* To use stimulants, therefore, seems to be one of the strongest of human instincts. As such it cannot be prohibited, any more than we can annihilate any other instinct. We can only curb it by reason or by law, if it transgresses the bounds of social life.

Second. Intemperance is very rare between the isothermal lines of 77° F. north, and south of the equatorial isothermal line of 82.4. It gradually increases on going northward (and southward probably), between 77 N. and S. and 50° isothermal lines, which is the area for the natural growth of the grapevine. It becomes very rife above 50°, and, moreover, it is of a coarser, more brutal character than in either of the two previously named areas.

Third. Intemperance produces little or no crime at the equatorial area, rarely in the middle area; whereas it is the great provocative of crime above 50 F.

Fourth. Race has immense influence on the prevalence of intemperance. For example, the English race has entailed on this nation the incubus of two centuries of drunkenness, inherited from one generation to another. England now overshadows Ceylon in the tropics, and Australia in the grape region, with these same habits, thus overriding all climatic law, at least for a time, till reason and conscience and wise laws can restrain it.

Fifth. In Europe and in the other grape-growing areas of the earth, mild wines are used freely from babyhood to old age, and they do not seem to produce a nation of drunkards.

Sixth. Similar remarks may be made on lager beer and its effects.

Seventh. On the contrary, ardent spirits dwarf intellectually, morally and physically the nation that uses them to excess.

Eighth. Hence we should not classify all liquors as equally prejudicial to man. On the contrary, admitting a human instinct, we should allow the reasonable and free use of some stimulants and discourage the use of others.

Ninth. We should in this country cultivate everywhere the grapevine and permit the use of lager beer. We should open our ports to a free trade in mild, "unfortified" European wines, at least until we can make sufficient of our own to satisfy the necessities of our people.

Tenth. We should do everything we can to restrain the use of ardent spirits as a beverage, by moral suasion and if need be by stringent law. We should close "grog-shops."

Eleventh. Moral suasion and education in the horrors of intemperance, too much neglected of late, I fear, in our pursuit of law as a prevention of intemperance, should be inculcated.

Twelfth. Inebriate asylums should be established for the reformation of dipsomaniacs, and repeated drunkenness should be punished as a crime.

Thirteenth. The seller of liquor to a known drunkard should be signally punished, and the offender should be made to pay the expenses of crimes or injuries resulting from the intemperance of his victim.

Fourteenth. All adulterations of liquor should be punished signally and promptly as a high crime against society.

Fifteenth, and finally, it would be the greatest blessing ing to this community if by large coöperative work by capitalists, Holly Tree Coffee Houses could be everywhere opened. In these, good food and good coffee and tea could be prepared cheaply for the people. These could be placed side by side by the two thousand grog-shops that now disgrace our city. Our correspondence proves that a great gain for temperance would be the result of such a movement."

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*It is true that Commodore Wilkes states that he did find one set of savages which had no stimulating drink.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, MAY 18, 1872.

THE Hassler Expedition has been heard from again, and this time through newspaper correspondents rather than through Prof. Agassiz himself. The ship left Montevideo, February 28th, and proceeded down the coast to Magellan straits, stopping a day or two in San Mathias Gulf in the northern part of Patagonia. During the passage the dredge was cast nearly every day, and many fine specimens obtained. After getting into the Straits of Magellan, a landing was effected at Sandy Point. From this place excursions were made out into the country and satisfactory evidence of glacial action, and that too, from the South, was discovered. It was also discovered that Mount Symond, ten miles distant, together with adjoining peaks, were extinct volcanoes A mine of true coal in the neighborhood of Sandy Point was also visited. The village of Sandy Point contains over 1000 inhabitants. The letters of the correspondents were dated from this village, March 18th, and it was expected to sail the next day. The party will probably next be heard from at Talcahuana, Chili.

THE resolution of the American Medical Association at its recent session in Philadelphia, asking the legislature to revoke the charters of all medical colleges who do not adopt the plan of the Association, although, passed, without doubt, with the very best of motives seems to us to go a little beyond the proper sphere of such an organization. The object of the resolution was to suppress bogus medical colleges, and this design is worthy of all praise. But the idea of accomplishing this result by making all medical institutions subject to a given plan and that plan the one decided upon by the Association, seems to us little short of the wishes of the Romish church in the matter of education in general. The American Medical Association doubtless is a body of very wise men, but we hardly think they are wise enough so that, no better methods of teaching or improvements in existing ones should be made in medical institutions that do not go through their hands and receive their sanction. The liberty to develop, organize, and even teach any new ideas, should be entirely independent of any body of men whatever.

AT a recent meeting of the educational committee of the General Conference of the Methodist Church, now holding its session in Brooklyn, a memorial was read from Dr. Bugbee and others of Cincinnati, asking for the formation of an Educational Union, to aid and foster present institutions of learning, and build up others where they are needed; to establish a uniform course of study in the schools and colleges of the Methodist Church, and superintend the publication of text-books; to aid young men and women who are preparing for the work of the church; to gather the statistics of the whole church, and to provide for raising the necessary funds. In the discussion which followed, Rev. Mr. Fish, of Detroit, thought no institution should be fostered unless it had an immediate prospect of an endowment of at least $200,000. This naturally brought out opposition from delegates from the South. The matter was referred to a committee to receive further consideration. There can be little doubt, it seems to us, that some organization of this kind would be a valuable auxiliary to the educational forces of the Methodist Church, and if it could succeed in reversing the present ruinous policy of that church in starting so many new colleges, and could shape the educational activity of the denomination according to a wiser policy, its value could hardly be estimated.

THE committee of captains of the crews of the various college boat clubs that propose to enter the College Regatta this Summer have done good work in the selection of a course for the race, and in deciding upon the style of the race. The course chosen, the Connecticut river below Springfied, is represented as especially fine in the chance which it offers for seeing the race from the elevated banks, on either side, and although not exactly straight, is perhaps the best, all things considered, that could be found in New England. But what seems to us especially worthy of commendation is the fact that we are to have a straight away race. If on no other account, the committee deserve great credit for this decision. One of the most important conditions of a fair race has been decided, so that a fair race is possible, and it would seem, that with decent attention to details, there might be such a trial of strength and skill on the Connecticut next July, as will delight all lovers of aquatic sports. The crews in the various colleges that design to enter the contest have nearly or quite all been chosen, and are in vigorous training, and if the number of entries is not too great, and the rule passed at the recent session of College Rowing Association limiting the crews to single departments, does not cause poorer crews to be sent than would otherwise have been the case, we shall look for a fine contest.

AT the last meeting of the Astronomical Society of England a paper was read by Lieut-Col. Strange, on "The Insufficiency of Existing National Observatories.' The object of the paper was not so much to find fault with Greenwich Observatory and its management, or with any other observatory; as to call attention to the fact that there are now certain branches of astronomy, which may be comprehended under the term "The Physics" of that science that have no sufficient means of observation devoted to their elucidation. The reading of the paper excited considerable discussion, in which Astronomer Royal Airy took part, and singularly enough he expressed the fear that the scope of such an observatory would not be sufficiently "secular," meaning by that word, as we understand it, not sufficiently practical to insure success. In view of this idea, thus advanced, a recent number of *Nature* criticises the Astronomer Royal, and hopes that the movement will receive the attention it deserves. It says: "The average Englishman is prone enough to hug what in his untaught stupidity he calls 'practical ideas,' and will not be improved by being told by one of the first of living philosophers that such ideas are the standard by which he should measure every proposal for advancement." *Nature* however, hopes better things of Mr. Airy than that he will retain such thoughts after mature deliberation. The subject itself is an exceedingly interesting one and seems worthy of the attention which is desired for it. Should action be taken *Nature* affirms that there are several preliminary questions to be decided. These are "(1.) What should be the scope of such an observatory? (2.) Should it be engrafted on Greenwich or be independent? (3.) Should Meteorology and Magnetism be engrafted on it and severed from existing institutions? (4.) Should a system of sun observations—the primary, though of course not the sole object of such an observatory—be extended to India and other British Possessions, so as to insure that continuity of facts" on which so much stress has been laid of late?

EDUCATION IN IRELAND.

The subject of education in Ireland is one which presents a singular history, and one which although rigorously agitated, seems far from solution even at the present time. The subject has gone through various phases, has caused bitter opposition and strifes, and more than once has been the object of preëminent interest in the British Parliament. The contest has been marked by great injustice to the Catholics, by a tardy and meagre concession of rights to them, and finally by a demand on their part for much more than it seems consistent with the civilization of the age to grant. The whole contest is an important phase of that momentous question, whether the government should support denominational schools, on the one hand, or, on the other, should give its aid only to secular ones.

In view of these circumstances it may not be amiss to endeavor to throw some light upon the present condition of the problem. And in order to do this it is necessary to say that for a long time previously and up to the beginning of the present century no Roman Catholic could teach a school and no Roman Catholic children could receive any education except in schools taught by Protestants. Even up to 1830, the principal public or common schools of the country were under the care and superintendence of the rector of the parish who belonged to the Church of England. These schools were almost exclusively devoted to teaching the dogmas, doctrines and catechism of that church, very little, if any attention being given to secular instruction. The idea in the minds of those who were in authority seemed to be, that all that it was necessary to teach the children of the working classes was, "to read their bible, and to say their catechism, and to follow the prayers of our beautiful liturgy on Sundays." In 1829, however, "Catholic Emancipation" was granted and in the following year the present system of Irish National Education was established. This system may be briefly described as follows: There is in Dublin a National Board, which is entirely unpaid and honorary, but which, however, manages the entire system and regulates all the schools of Ireland. This board at present consists of twenty members, ten Roman Catholics and ten Protestants of all denominations. The present Protestant Archbishop of Armagh, and the primate of Ireland in what is now the disestablished church, is one of the members of this Board, having joined it last November, and Lord O'Hagan, the present Roman Catholic Lord Chancellor of Ireland, has been a member of the body for a number of years. And the various other religious denominations in the country, Methodists, Presbyterians, etc., are represented in the organization.

The system of instruction which has been developed under this management is best illustrated perhaps in what are termed the "Model Schools." The working of these schools is thus described by a writer in a recent number of the *Christian Union*:—"In the 'Model Schools' the hours for daily instruction are from 9 o'clock A. M. till 3 o'clock P. M. There is no 'dinner hour,' as in England and America. The teaching is continuous for the six hours, except one half-hour for play in the school grounds. The system of teaching is what is known as the 'tri-part,'—one-third of the scholars are in desks, one-third in semi-circular classes on the floor and one-third in galleries off the school-room. The lessons are half-hour lessons throughout the entire day. The scholars in the desks, galleries, and on the floor change places with each other every half-hour. The teachers generally confine themselves, like a professor in a college, to one or two subjects, and each teacher has a new class each half-hour for the same subject. From 9 o'clock till 10 o'clock 'combined secular' instruction is imparted. The male pupils, of all religious denominations, receive secular instruction together; so with the females; so with the infants. At 10 o'clock, on the ringing of the teachers' school-bells, all the pupils pour out of the schools into the yard. In the Dublin 'Model Schools' there are about 5,000 scholars. These all throng the yard at 10 o'clock; and then in an instant, all the Roman Catho-

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lics,—male and female, teachers and pupils,—return to the female school; all the Church of England to the male school; all the Presbyterians to a large lecture-hall; all the Methodists to a smaller school-room on the premises; all the Congregationalists to one of the galleries; and thus separated they each receive 'separate religious instruction' from 10 to half-past 10 o'clock each day. Each denomination may teach what it pleases during this half-hour. The Roman Catholics may have holy water, beads, pictures, images, and whatsoever they desire during this half-hour. So with all the other denominations. Every peculiarity and speciality of their religion may be indulged in to their heart's content. On one day in each week—Tuesday, in Dublin—'separate religious instruction" is from 10 to 12 o'clock; and for these two hours a clergyman of each religion may visit the children of his own creed, and catechise and instruct them. All churches and denominations have availed themselves of this privilege, until Cardinal Cullen forbid any priest to visit the schools; and now the Roman Catholic children have only their Roman Catholic teachers at religious instruction.

When the half-hour, or the two hours, devoted to religious instruction expires, the children all turn out into the yard again, and thence march into their respective schools,—male, female, and infant,—for 'combined secular instruction' until 3 o'clock. During secular instruction no allusion whatever is allowed to be made to any religious topics, dogmas, doctrines, or books. The children are kept closely to the half-hour lessons on secular subjects."

The same writer affirms also that, "The education imparted in the national schools of Ireland is superior to that of any other civilized state in the world, not excepting either Prussia or America. In the male schools the pupils are taught reading, writing, arithmetic, grammar, geography, geometry, algebra, trigonometry, mensuration, drawing, vocal music, chemistry, electricity, mechanics, acoustics, hydrostatics, etc. The females are not taught the higher branches of mathematics, nor the natural sciences; but they are taught instead, plain and fancy sewing and knitting; the use of the sewing-machine; and instrumental music. French is taught as an 'extra,' for five shillings ($1.25) a quarter."

This system, whose results are so excellent, was at first—in 1830—received with great joy by the Roman Catholics, and with disfavor and even denunciation by the Protestants, since by it they lost their supremacy. At present, this state of things is reversed. The Roman Catholics, at least, those in authority, denounce the system as a godless one and demand schools that shall be under their own control; while the Protestants, gratified at the excellent working of the system and seeing that the establishment of denominational schools would in reality endow Roman Catholic schools all over the country out of the national treasury, are more and more approving and sustaining the present condition of things. And just here arises the difficulty over the schools. The Catholics, not content with a system which gives all denominations an equal chance, are clamorous for schools under their own control. They want schools in which the children of Catholics shall be taught out of school books compiled under Catholic direction, and which shall be thoroughly and entirely Roman Catholic in their teachings. In short, nothing will satisfy them but that the schools shall be under exclusive Roman Catholic control, and that the government shall bear the expense. And they urge in behalf of their position that denominational schools are fostered in England, and it is but justice that the same aid should be given them in Ireland. To this "The National Educational League" of Birmingham responds to the effect that they are opposed to denominational schools even in England. "The Irish National Educational League" of Belfast, Ireland, likewise is in favor of maintaining the present system, and of aiding the Birmingham League to obtain a secular system in England. A portion of the British Ministry are believed to be in favor of granting what the Catholics desire, while others are opposed to such a movement and favor the maintainance of the present system. And here the matter as far as regards the schools rests at present.

There is however, another phase of the educational movement in Ireland which is now full of interest, both on account of its own merits and on account of the excitement which it recently caused in British Politics. This plan is connected with the higher educational institutions of the country. A portion of the colleges of Ireland, as for example, what it styles "The Queen's University in Ireland," which ismade up of Queen's College at Cork, at Belfast, and at Galway, are now conducted practically on the same principal as the National Schools. Both secular and separate religious instruction is given in their institutions. But the Dublin Uuiversity is not so conducted. This institution is under the control of the disestablished Irish church, and as such is distasteful to a portion, at least, of the liberal party. Accordingly Mr. Fawcett has introduced into Parliament a bill which proposes, in brief, to throw the college open to all sects; to render it secular; and to place the government of it in the hands of Catholics and Protestants alike. This proposition, it will be seen, is just what the catholics are opposed too; they despise what they term "mixed" education, and will hesitate at nothing to thwart any such movement. And now comes an interesting point in the discussion. The present liberal ministry of the British Government numbers among its supporters in Parliament about fifty Roman Catholics, that is, about fifty can be relied upon to support the ministry on ordinary questions. When now Mr. Fawcett's billis brought before Parliament and there is a strong probability that it will pass, as was the case a short time since, these Catholic supporters of the ministry threaten to withdraw their support if this is accomplished. The ministry, thereby, are put, so to speak, in a tight spot, and threaten to resign if Parliament passes the bill. This they do as a matter of self preservation for they cannot afford to lose the Irish vote in a mass. When this decision of the ministry became known, enough of the English liberals who favored Mr. Fawcett's ideas, but who prefer the stability of the present ministry to the passage of the bill, withdrew from its support and the bill is not passed. And here this question too rests for the present. Mr. Fawcett is a determined man, and will undoubtedly press his measure at every opportunity. Meanwhile the Roman Catholics will doubtless strive for a separate university under Roman Catholic control. They have for their encouragement the fact that they possess a certain amount of power and that as has just been shown, they can barter this power for the support of the ministry on occasions which are critical to themselves. We cannot believe, however, that they will meet with any decided success. The tendency of the thought of the age is against national aid to denominational institutions of learning, and it must be long before the British Parliament will put it into the hands of any body of men to mould the instruction of the people according to the behests of a church that is opposed to the civilization of the contury in which it exists.

LITERARY.

Messrs. J. B. Lippincott & Co., Philadelphia, have in press "Euripides" by William Downe, vol. XII. of Ancient Classics for English Readers; "Coming to Christ," a poem by Wm. S. Green; "Treatment of Spinal Curvature," by Benjamin Lee, M. D.; "Boys Book About Indians;" by Rev. E. B. Tuttle; "The Ten Laws of Health," by J, R. Black, M. D.; "Pennsylvania Dutch," a series of essays descriptive of the manners, peculiarities and language of the old German settlers of Pennsylvania; and "Wesley and Swedenborg," an appeal to the Methodist ministers, inviting them to consider the relations of Methodism to the New church, by E. R. Keyes, pastor of the First New Church Society, Philadelphia.

Periodicals.—The Sunday *Magazine* has among other articles one by Hans Christian Andersen, on "Religion and Science," in which he takes the ground that truth is one, and that pure science and pure religion can never be at variance. There are also "Born Again," by the Editor; "The Indwelling of the Word of Christ," by Alexander Raleigh. D. D.; "The National Synod of the Reformed Church of France, by Madame De Witt *nee* Guizot; "Can Any Good Thing Come out of Nazareth," by J. S. Howson, and others.

In *Good Words* for May, the serials are continued, Rev. Charles Kingsley giving in his fifth article on "Town Geology," an account of "The Lime in the Mortar." There are also a description of "How we went Yachting," by Lady Barker; an article on "Frederic D. Maurice, by Dean Stanley, D. D. "How a Fort Ditch was Plumbed," by Rev. J. C. Brown; "The Story of the South Warwickshire Laborers' Union." by Edward Jenkins, author of "Ginx's Baby;" and "John Macleod Campbell," by the editor.

In *Wood's Household Magazine* for June, James Parton tells the story of the persecution of Henry Dunster, first president of Harvard College, which caused him to resign his office. By what we suppose is a typographical blunder Mr. Dunster is called the second president of Harvard instead of the first. There are also interesting articles by Gail Hamilton, Harriet Preston Spofford, Horace Greeley and others. This Magazine is rapidly growing in excellence and must win its way into public favor.

The department entitled "Notes and Queries" of the *American Bibliopolist* is a repository for all sorts of out of the way and at the same time interesting literary information. Thus among other items in the May number there is a brief discussion in reference to the origin of the expression "By Hook or by Crook," and also an inquiry as to the origin of the term "Hotch Pot." *The Bibliopolist* has also, interesting literary gossip; an article on "Was Shakespeare a Soldier?" by W. P. Thoms, a lengthy correspondence from different persons in reference to "The Original of Oliver Twist," and its usual lists of books, rare, curious and useful.

Manual of Chemistry.*—Perhaps the character of this Manual is given with sufficient fullness on its title page. It is almost a literal abridgement of Eliot and Storer's larger work,—a work which is clearly one of the best text-books on the inductive plan available for the student. We notice, however, some changes and additions of value. Among the former, we may mention that the nomenclature has been revised and modernized; such names as potassium sulphate, silver chloride, and hydrogen sodium carbonate replacing the old ones. The chief addition is the expansion of the chapters on carbon to include a little organic chemistry. In the seventy-four new pages which are added a rapid sketch is given of many of the most common organic compounds. Several new illustrations have been added, and the old outline cuts of the larger manual are replaced by shaded new ones, much more satisfactory in appearance. The appendix on Apparatus and Manipulation, an exceedingly valuable feature of the larger book, is retained almost unchanged.

**An Elementary Manual of Chemistry.* Abridged from Eliot and Storer's Manual, with the cooperation of the authors, by Wm. Ripley Nichols, Assistant Professor of General Chemistry in the Massachusetts Institute of Technology. 12mo, pp. xiv, 287, lxiii, New York, 1872. Ivison, Blakeman, Taylor & Co.

The Complete Phonographer.*—This work first appeared in 1867, since which time a new impression has been issued each year, the present one bearing the im-

**The Complete Phonographor.* By James E. Munson, New York; Harper & Brothers, 16 mo., $2

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print of the powerful and enterprising firm of the Harpers.

In preparing this system Mr. Munson had the advice and assistance of several of the very best American phonographers, through five years of experiment and research. He then made use of the new phonography in his own professional practice for three years more, before giving it to the public. Thus perfected and tested, this treatise is by far the most philosophical and complete work on this subject which has ever appeared, or is likely to appear for a long time to come.

It has been the misfortune of the art of phonography to be too much separate from the science. Its leading principles were first combined and enunciated by Isaac Pitman, but improvements and expedients were constantly being suggested by hundreds of practical reporters, through a long series of years. These changes, adopted into the system, rendered it a crude and complicated mass of rules and expedients, difficult both to learn and to read. These characteristics reached their extreme point in Pitman's ninth edition, which Mr. Graham undertook to introduce into this country (with slight changes) as "Standard Phonography." Mr. Pitman, however, neither retrogressive nor stationary, now began to simplify his system and bring it into that philosophical order and consistency without which it was neither truly an art or a science; and his twelfth edition, bears a close resemblance to Mr. Munson's, which is the true American standard system. But Mr. Munson and his coadjutors, not satisfied even with Pitman's twelth edition, at length succeeded in removing all the complications and anomalies with which the old system was burdened, without diminishing its speed, and with a vast gain in legibility.

This system needs no recommendation to candid men who are familiar with the subject. The fact that scores of practical reporters, many of them of the very first rank, have abandoned Graham and adopted the new system, speaks volumes. No person ought to commence the study of the art without first examining this book, and a careful comparison of it with any other books on the subject will be enough, we cannot doubt, to convince even the uninitiated of its immense superiority.

What to do, and Why.*—The author of this work is entirely correct in the fact that "No interests of a secular character surpass in importance the selection of a proper life-pursuit, and the requisite culture of the faculties through which health, success and happiness may be achieved." But whether this volume affords the necessary knowledge for such a selection, whether it in reality points out "what to do and why," may well be doubted. The contents of the book, though various in their character, are all based upon the theories of Gall and Spurzheim—phrenology, which the author styles "a system of mental philosophy," and of which he says, "it grasps the intellect in all its varied powers." Without in any way questioning what is here claimed for the science of the skull, we are not prepared to admit that by it alone, or mainly, a young man can determine with certainty what branch of business he is best qualified to pursue with success. That something of value may be gleaned from it is generally conceded, and to that extent, whatever it is, may be trusted. But every young man, whatever his natural qualifications, and however carefully he may have followed the indications of his brain, will find in his experience, that his business, despite his exertions, will be, in a very considerable degree, governed or controlled by extraneous influences. So much depends upon matters other than the bent of his inclination or the characteristics of his mind, that he will most certainly find himself, if he relies wholly upon his craniological developments, more or less disappointed. One man may succeed in any business, and another may fail in every thing he attempts, and if phrenology is good for any thing it will teach these two facts. It is true, the author proposes a system of education by which men shall be trained for the particular branch of business to which they are respectively suited by nature; or, if nature has done nothing for them, then that they shall be fitted for something. Doubtless much may be gained by education, but all the defects of nature can not be supplied even by that means, and some men must fail in spite of all that is written in this book. It is but justice to say, however, that it contains many valuable facts—much useful information—and, to a certain extent, may aid young men in the selection of a proper vocation. It may be read with profit, and some of the the hints may be followed with advantage. But we think it would be unsafe to take it as a guide in all things, or to rely too much upon the indications of craniology.

* *What to do, and Why;* and how to educate each man for his proper work: describing seventy-five trades and professions, and the talents and temperaments required for each. By Nelson Sizer. New York: Mason, Baker & Pratt, 142 and 144 Grand street. 1872.

COLLEGE RECORD.

State Agricultural College, (Lansing Mich.)—The laying out of drives, walks, and grass plots, at this Institution, has been begun. A new entrance is to be made to the grounds half a mile west of the present one, with a carriage drive along the bank of the Ceder River leading to the college buildings. The green-house is to be removed to the south bank of the ravine, and other improvements of minor importance are to be made as the means of the college will allow. These changes are being made by Mr. Oliver, a landscape gardener from Kalamazoo. Prof. W. J. Beal has charge of the gardens and Horticultural Department. A brass band has been organized, with Frank A. Gulley, of Dearborn, as leader.

Lafayette College, (Easton, Penn.)—From the catalogue of this institution for 1872, just issued, we learn that, during the past year valuable donations have been made to the Scientific Collections of the college, from J. L. Brown, of Franklin Furnace, A. D. Budd, of New Jersey, and Frank Firmstone, of Glendon, mineralogical specimens; from R. H. Terhune, specimens from Bessemer Steel Works, Troy, N. Y.; from Rev. S. F. Colt, fossils; from President Hinckley and Chief Engineer Fuller, (Philadelphia, Wilmington, and Baltimore Railroad,) a large McCallum Truss Bridge and other valuable models; from Blake Brothers, New Haven, Conn. model of stone breaker; from F. F. Milne, of Philadelphia, a complete working model of Locomotive; and from the Rev. Charles R. Mills (class of 1853), of the Shantung mission in China, a set of models illustrating the industrial arts of the Chinese empire.

The Library has received valuable gifts from Hon. Samuel Boileau, Hon. S. A. Bridges, Hon. A. G. Cattell, Dr. John Curwen, Professor Schele DeVere, Commissioner C. L. Flint, E. J. Fox, Esq., J. Smith Futhey, O. J. Harvey, H. Hennesy, the Lyceum of Natural History of New York, E. Miller, C. E., Prof. B. Pierce, L. G. Sanford, S. B. Schieffelin, the Smithsonian Institution, J. C. Trautwine, C. E., T. Twining, and Walling & Gray. M. Ferdinand de Lesseps has presented to the college a complete collection of the official reports upon the Suez Canal, accompanied by all the maps, plans, &c.

A fund was instituted by the last graduating class for the yearly purchase of the new issues of early English texts.

In the departments of Acoustics, Optics, Electricity, and Graphics, the amount of apparatus has been largely increased by recent purchases.

Bates College, (Lewiston Maine).—A correspondent of the Boston *Advertiser* speaks as follows concerning this institution: Just out of the more densely populated section of the city the site was selected for the college buildings and grounds, and by the munificence of its founder, with subsequent donations, Bates takes a commanding rank with many of the older colleges of the country. At present there are three buildings connected with the college proper. The main building, and the first erected, is a handsome brick edifice, surmounted with a tower and bell. In this building is the chapel, library containing some 4,000 volumes, recitation rooms, cabinet and laboratory. Two college societies have hansomely furnished halls in this building also, with libraries of 1,200 volumes in the aggregate. The dormitory is very near the main building. The theological department, similar in appearance to the building just described, is situated a quarter of a mile away, while the preparatory school is but a short distance away. It has a fine building, and is designed to afford ample accommodation for a preparatory course. A convenient gymnasium is connected with the college, where the students can obtain perfection in "muscular Christianity" at the same time they are becoming experts in classical lore.

The views from the grounds and also the cupola are fine. A cordon of hills, some remote, others nearer, entirely surround Lewiston, while the valley of the Androscoggin is clearly defined, with an occasional glimpse of that beautiful water flashing like silver in the rays of the sun. From the summit of "David's Mountain," a hill of considerable altitude in proximity to the college, and near whose base Dr. Cheney, president of Bates College, has just erected a fine residence, and where some of the faculty are about to imitate his example, the prospect is exceeding pleasant. Lakes just released from their icy confinement, are dotted here and there, smiling for very joy in the spring sumbeams. Mountains dim and hazy in the distance invite the lover of nature to their deep recesses, while a fine agricultural country spread out on every hand, is cheering the husbandman by decking itself with the manifold colors of May. At no distant day an observatory is to be erected on this hill. Bates College is in a flourishing condition. It has an endowment fund of $175,000, while the number of students in attendance now, with the number it has graduated, compare favorably with other institutions of the same age. The means of access are favorable. Several trains arrive daily from the East and West, while the Maine Central Railroad, with characteristic liberality, is using every endeavor, to accommodate a constantly increasing travel to this point.

Yale College, (New Haven, Conn.)—A report of the Anniversary exercises of the Theological Seminary which have taken place this week will be found in another column.

Professor Weir's Lecture on "Chiar-oscuro" last week was well attended and was one of exceeding interest. The fact that we see the forms of objects simply by variations of the light and shade of the object was dwelt upon at some length, and the power of light and shade to express on a plane surface the forms of objects, their irregularities, etc, was clearly shown. The lecture was illustrated with projections and with rough sketches, which rendered visible to the eye the distinctions described in the lecture. The subject for next Monday evening is "Color."

Excursions in Natural Science seem to be the order of the day, to a certain extent at least. Wednesday week Professor Dana went with the Senior Class to Derby, and spent most of the day in the examination of the geology of the region, visiting also the Birmingham dam. Last Wednesday botanical expedition under the charge of Professor Eaton went to Mt. Carmel. Many fine specimens were secured, and the trip was thoroughly enjoyed. Professor Verrill has likewise recently been with a party to Stony Creek on a Zoological excursion.

Professor Packard who has been spending the winter in Aiken, S. C., has returned.

The Fortieth Annual Convention of the Alpha Delta

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Phi Fraternity will be held on May 22d and 23d next with the Peninsular chapter at Michigan University, Ann Arbor. Hon. Wm. S. Grosbeck is President of the Fraternity. Hon. J. R. Doolittle will deliver an oration and Rev. Frank Sewall, a poem on the evening of the 23d. C. Sherwood, '72, and E. R. Johnes, '73, are the Yale delegates.

It is said that a majority of the present senior class of Williston Seminary, at East Hampton, Mass., which numbers twenty-nine, will apply for admission to Yale next fall.

The first meeting of the Yale Athletic Association, a new organization under the control of the Ball and Boat clubs, was held at Hamilton Park last Saturday. The exercises were successful in every particular and much enthusiasm was aroused. There were enough entries in every contest to make it interesting and the day's sport was a financial success. The contests were as follows.

I. Throwing the ball.—(Two throws allowed each person.) The entries were, F. Brown, '72' Barnes, '74, Maxwell, '74, Rogers, S. S. S. Avery, '75, Seymour, '75, Hotchkiss 75. Hotchkiss won the prize throwing an ordinary ball 353 feet 8½ inches. Maxwell who threw 347 feet 8 inches, was second.

II. Half mile race.—Entries: Clapp, J. Brown, F. Brown, and Potter of '72 ; P. Williams '73 ; Gunn and Waterman '74 ; and Hoyt S. S. S. Gunn led for three-quarters of the way ; but Waterman then passed him, and won in 2 minutes 37 seconds.

III. Running high jump.—Entries: Bently, Bliss, Day, and C. L. Hubbard, all of '73. The starting jump was 3 feet, 4½ inches, and after fifteen "rises" Bentley won, jumping over the line at 4 feet, 7½ inches.

IV. Running long jump.—(2 jumps allowed each person) Entries: Bentley, C. L. Hubbard, Johnes, and S. P. Williams of '73 and Maxwell of '74. Maxwell won the prize jumping 18 feet, 5½ inches.

V. Hurdle race—150 yds.—9 hurdles.—This race was looked forward to with much interest, as few believed that any of the contestants could run the required distance, taking all the hurdles. Entries: Bliss and Bentley of '73, Stearns, Bristol, and Maxwell of '74, and Rogers, S.S.S. Maxwell led from the start and took all the hurdles in beautiful style, winning in 26¼ secs. Bristol came in second and Bentley third.

VI. Three legged race.—(distance 125 yards.) Entries: C. L. Hubbard and Schaff, '73, Boomer and Curtis, '72, Tilney and Bennett, 72, and Parrott and Weber, S.S.S. The race was won in 21 secs. by Parrott and Weber.

VII. Two hundred yard dash.—Entries: W. Green, Hillhouse, Weber, Head, and Hall, S.S.S., Clapp, '72, Elder and Schaff, '73, Wilson and Holbrook, '74, and Johnson, '75. All started except Elder, '73. Wilson, '74, came in first, in 23 seconds; Clapp, second, 23½ seconds.

VIII. Standing high jump.—Bentley and Maxwell, catcher and pitcher of the university nine, were the only entries. The starting jump was 3 feet 3 inches, and after nine rises Maxwell won, jumping over the line at 4 feet.

IX. Standing long jump.—Entries: Maxwell '74, Bentley and Johnes '73. Maxwell and Bentley "tied" on the second jump , but after two more trials Maxwell won, jumping 10 feet 8½ inches.

X. Walking race 400 yards.—There were fifteen entries, and all started. A. S. Hall S. S. S. came in first, and H. Strong '73, second. But the Judge decided that Grover '74 was the only contestant who did not run and the prize was therefore awarded to him.

XI. Hurdlerace—200 yards; 12 hurdles.—Maxwell having won the other hurdle race was ruled out, and the contest was mainly between Bentley and Bristol. The latter led to the tenth hurdle, but missed this, and Bentley came in the winner. Time, 37 sec.

XII. Consolation race.—200 yards—To all who had not taken a prize. Entries: Bliss, C. L. Hubbard, Holmes, and Elder, '73, Holbrook, and Stearns, '74, Hillhouse, S.S.S. Hubbard won in 25½ sec., Bliss coming in ¼ second behind him.

Judges, Messrs. DuBois of '72, P. H. Adee, of '73, and Mr. Weeks, of Columbia College. Secretary, Mr. Averell, '72.

The governing board of the Scientific School have recently changed the value and number of prizes in this department of the University, and have offered the following for the present year. In the Freshman class, prizes of the value of ten dollars will be given for excellence in Physics, in German, in Mathematics, and in Geometrical Drawing, and also one for general excellence in all the studies of the class. In the Junior class one prize is offered, that for Mathematics ; and in the Senior class, four, viz: in Civil Engineering, in German, in Mineralogy and in Zoology. There is also a special prize in Botany. None of the prizes exceed ten dollars in value.

The men who will probably compose the Yale Nine, their positions, and the order of striking, for the coming, season are as follows: l. Nevin, '74 ; s. s. Richards, '72 ; c. f. C. Deming, '72 ; 2. Day, '72 ; 1. Barnes, '73 ; 3. H. C. Deming, '72 ; r. Thomas, '73 ; p. Maxwell, '74 ; c. Bently, '73. A new stock of bats and balls and a new set of bases have been procured. And with the exception of an extra umpire or two, the Nine is now equipped for the summer campaign. A game is to be played with the Eckfords, next week Wednesday. It now seems probable that a series of matches will be arranged with the Harvard Nine, after all. Harvard has submitted two propositions. The first of these is that the first game of a series be played on next week Saturday, May 25th, on Jarvis Field ; the second on the grounds, at Hamilton Park, and the third on the Boston's grounds, in Boston. The other proposal is to settle the contest by a single game at Hamilton Park, as last year. It depends on the faculty of Yale whether the former will be accepted.

The following circular, which explains itself, has been issued :

To the former Students in the Sheffield Scientific School : — The Anniversary of the Sheffield Scientific School will be observed on the Monday of the next Commencement week in Yale College, that is to say, on the eighth of July, 1872. Twenty-five years have passed since the instructions of the school began, and twenty years since the first class was graduated. A general desire has been expressed that this should be made an occasion for inviting an assembly of those who have been at any time students in this department of Yale College, whether they were formally graduated or not. Public addresses and a social gathering, with a collation, may therefore be expected on the afternoon and evening of the day already named (July 8, 1872). All former members of the school are cordially invited to be present, and thus to become personally familiar with its recent growth.

William A. Norton, Chester S. Lyman, William D. Whitney, William P. Trowbridge, George J. Brush, Daniel C. Gilman, Samuel W. Johnson, William H. Brewer, Daniel C. Eaton, Thomas R. Lounsbury, Othniel C. Marsh, Oscar D. Allen, Addison E. Verrill, Professors.

Yale College, April 24, 1872.

YALE PERSONALS.

'10 MORSE.—We find the following in reference to a biography of Prof. Morse in a recent number of the N. Y. Observer. "The executors of the late Prof. Morse state that his will provides that his 'books, manuscripts and papers shall be given in charge by his executors to some suitable person or persons for the purpose of preparing a biographical notice relating to him.' This direction the executors of his will intend faithfully to carry out. They will at once select a person they consider most competent to prepare a biography worthy of this distinguished man, to whom all his papers will be submitted, and who will have the exclusive use of the material afforded by them. It is the desire of the executors to present the most readable, attractive, and at the same time reliable, biography of Prof. Morse, and all crude and unauthorized attempts at such a biography, without the proper material, would only prejudice the plan now proposed. The family of Prof. Morse and his executors desire to give the above as reasons to the public for not furnishing materials for sketches of his life, which are frequently asked of them, and to ask that his biography may be left to be prepared from the only authentic sources, which are found among his papers, and in the manner indicated by himself. It seems not unreasonable that his reputation, as it is handed down in history, should be committed to friends of his own choice ; and his last wishes in this regard, his executors are confident will be regarded by all."

'53, BILLINGS—GIBSON.—Edward C. Billings and Randall Lee Gibson, both of the class of 1853, are the probable republican and democratic candidates, respectively, for governor in the next Louisiana election.

'70, EDDY.—Willard Eddy, who since graduation has been admitted to the bar both in New York State and in Connecticut, and who has been spending the past winter in Hartford was in New Haven last Tuesday. He thinks of going west to establish himself in his profession.

'59, TWICHELL.—The Rev. J. H. Twichell, of Hartford, will deliver an address before the Grand Army of the Republic at Northampton, Mass., on Decoration Day, May 30th.

'64, BURNETT.—We have received with the compliments of the author, Chas. H. Burnett, M. D., a pamphet reprinted from the *Archives of Ophthalmology and Otology*, and entitled, "An Investigation Concerning the Mechanism of the Ossicles of Hearing, and the membrane of the Round Window." Dr. Burnett is a Fellow of the College of Physicians of Philadelphia, and aural surgeon of the Philadelphia Dispensary. His post office address is 129 South Fifteenth street, Philadelphia, Pa.

'64, MILLER.—M. M. Miller who was for a time connected with the class of '64, has recently left his former residence in Galena, Ill., and gone to Clay Center, Clay Co., Kansas. The Galena Gazette says in reference to the change: "In his new field of enterprise he will continue in the practice of the law, in connection with the real estate business. In leaving Galena, Col. Miller abandons a lucrative business, having a paying practic in his profession, in addition to being County Attorney, Master in Chancery, Notary Public and United States Commissioner. Col. Miller leaves behind him, in Jo Davies County, many very warm friends, who will greatly regret his removal, and who will hope for his success in whatever he undertakes."

'66, MILLER.—John E. Miller, who has been engaged for some time past in his native place, Oxford, N. Y., in merchantile pursuits, has recently formed a partnership with Mr. William Beardsley of that place, for the purpose of carrying on a business in flagging and building stone. The new firm have control of several fine quarries in the vicinity.

'69, HALL.—W. K. Hall, has recently formed a partnership with Chas. Blandy for the practice of law. The office of the new firm is 262 Broadway, Corner of Warren street, New York city, and they start out under good auspices and with plenty of work.

'70, CARY.—N. W. Cary. who is taking a course in the Princeton Theological Seminary is preaching at present at Wanamie, Luzerne County, Pa., and at Nanticoke, a place about three miles northeast. His post-office address is at the former place.

'70, SCHELL.—The Hon. Wm. P. Schell, of Bedford. Pa., father of F. R. Schell, has been nominated by the Labor Reform party of Pennsylvania as their candidate for Governor. Mr. Schell we understand will be endorsed by the Democratic convention.

'71.—During the week past several '71 men have been in New Haven. Mason is here spending a short vacation and trying to secure some much needed rest. Whittlesey spent Saturday and Sunday of last week here. Burr was up from New York for a short time, and Steele was down from New Britain and attended the anniversary of the Theological Seminary.

SEMI-CENTENIAL OF THE YALE THEOLOGICAL SEMINARY.

The exercises in connection with the celebration of the fiftieth anniversary of the existence of the Theological School in Yale as a separate department of the institution, were opened on Wednesday afternoon last,

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with the graduation exercises of the senior class in the Seminary. The exercises were held in the College street church. A fair audience in which were a number of former graduates and friends of the Seminary who had come to attend the celebration assembled at the time appointed and the following order of exercises was carried out:

1. Anthem by the Choir, composed of students of the Seminary.
2. Prayer, by Rev. Mr. Hoborth, of N. Y.
3. God Present in Nature, by Arthur Herman Adams, B.A., (Yale '67), Cleveland, O.
4. Conviction of Sin, its Relation to Christ, by Austin Hull Norris, Centerbrook, Conn.
5. The Pastor a Leader of Men, by Joseph Alexander Tomlinson, B.A., (Pennsylvania College), Bedford, Pa.
6. The Great Awakening of 1740, by Arthur Shirley, B.A., (Yale '69), New York city.
7. Hymn.
8. The Growth of Words in Meaning, by Elisha Wright Miller, B.A., (Yale '68), Williston, Vt.
9. Christianity and Culture, by Edwin Bailey Burrows, Troy, N. Y.
10. The Meditations of the Emperor Marcus Aurelius, by Rufus Byam Richardson, B.A., (Yale '69), Groton, Mass.
11. Practical Preaching, by Clayton Welles, M.A., (Yale '68), Wethersfield, Conn.
12. Hymn.
13. Benediction.

The above list comprises the whole of the graduating class except Richard A. Rice, B.A., (Yale '68), who was excused from speaking. The class has had three more members until within a short time, Mr. P. D. Murray, who does not graduate because of ill health, Cyrus B. Whitcomb, who is now preaching at Derby, Conn., and Geo. O. Whitney who recently received and accepted a call to a pulpit in Tarrytown, N. Y., and is now preaching in that place.

On Wednesday evening a historical address was delivered in Centre Church by Prof. Geo. P. Fisher. We hope to print this address in full in subsequent numbers of the *Courant* and will not therefore attempt to give any abstract of it now. The address was very interesting and was listened to with marked attention.

On Thursday morning the celebration of the semi-centennial was continued by exercises in the Marquand Chapel. The Alumni and friends of the institution gathered in the Chapel at 9 o'clock. Rev. W. T. Buddington of Brooklyn was called upon to preside. Prayer was offered by ex-President Woolsey, when Rev. Prof. Geo. E. Day made a brief statement of the progress of the Seminary during the year. Within that time the new chapel has been completed, the reference library instituted, the Beecher lectureship founded, and many smaller benefactions made to the Seminary.

Rev. Dr. Bush of New York next read a paper on the connection of the Seminary with Foreign Missions. It was stated that out of 800 graduates thirty have gone to the foreign field, where fourteen have died and seven are still laboring. Dr. Bush gave a rapid and exceedingly interesting sketch, embracing more or less details of each of this noble band. The Rev. and Hon. Peter Parker, for twenty-five years, missionary physician in China was called upon, and related some very interesting passages of his experience.

A paper on the Home Missionary relations of the Seminary, by Rev. Pres. Sturtevant, was then read by the Secretary. This valuable essay contained some account of the celebrated "Illinois Band." In the discussion which followed, it was shown that Yale Seminary has always exerted a very powerful influence upon Home Missions, and sent a large proportion of its graduates into that field; a fact, which accounts for the comparatively small number of Foreign Missionaries who have gone out from it.

Then followed a paper by Rev. Dr. Daggett, of New London, of personal reminiscences of Dr. Fitch, an essay whose elegant style had no less charm than its keen analysis, interesting anecdotes, and appreciative descriptions. A few other renimiscences of Dr. Fitch by other alumni closed a most delightful meeting, after which most of those present went in a body to the old cemetery to view the graves of their revered instructors in theology.

In the afternoon the Alumni came together again. First a letter was read from Rev. Horace Bushnell, D.D., declining to be present, with characteristic wit, for fear he should "suffer death by the platform."

An essay upon Prof. Gibbs was then read by Prof. Hadley, and was a remarkably clear, appreciative, and interesting sketch of that remarkable man. Pres. Porter produced the subscription list which was made up in 1824, towards the salary of Prof. Gibbs, to enable him to give "more thorough instruction in the interpretation of the Bible;" a most interesting relic of the beginnings of the Seminary.

Pres. Porter then gave a partly extemporaneous sketch of Dr. N. W. Taylor. He regarded Dr. Taylor as behind no Calvinistic theologian, not even Augustine himself, in the depth and earnestness of his conviction of the evil of sin. To this peculiarity President Porter traced most of the distinctive features of Dr. Taylor's system. He wrought out his system, it is true, for his own satisfaction, yet it was with constant reference to the practical preaching of the doctrines of theology. He did not pursue metaphysics for its own sake, nor separate it from common sense. The New England theology, so-called, was the first attempt to view theology in the light of the modern philosophy, of the methods of Descartes and Locke. All other systems were formed upon the old scholastic philosophy. There is no such thing as theology without metephysics; theology by its nature is philosophy. Dr. Taylor was a student to the last. In the last weeks of his life he started new theological topics and discussed them with all the ardor of his nature. Dr. Taylor's writings may cease to be read; but the impression he produced in some respects will remain. We are very sorry to be able to give only a meagre sketch of this masterly address, which charmed and interested all who heard it.

Dr. I. N. Tarbox, of Boston, next read a paper on Prof. Goodrich. This was a brief, clear, and able sketch of the life of this distinguished man, known chiefly to the present generation as the editor of Webster's Dictionary.

Personal reminiscences followed, by several of the alumni. Dr. Bacon read a letter from Dr. Hodge, of Princeton. Rev. Goodrich Smith, of the earliest class but two of the Seminary, followed with some personal recollections of Prof. Goodrich and Dr. Taylor. Interesting remarks were also made by Prof Atwater of Princeton, and Rev. W. M. Taylor Pastor of the Tabernacle church, New York. Prof. Day then made a statement in regard to the endowment of the Seminary. Rev. Dr. Buckingham, of Springfield, Mass., Dr. Eldridge, of Norfolk, Conn., Prof. Thacher, Prest. Porter, Rev. Mr. Churchhill, and others, spoke of the importance of erecting an additional Divinity hall. Prest. Porter said that if such a hall should be built the number of divinity students might be doubled. It was then voted that a financial Committee be appointed to coöperate with the theological faculty in raising funds for the erection of the new building. This committee consists of Rev. E. L. Heermance, New Haven; Rev. John Churchill, Woodbury, O. H. Parker, Esq. Haddam, and Samuel Holmes, New York city. The gathering then adjourned to the lecture rooms of the Theological building where a collation had been prepared.

Taken as a whole the celebration of this fiftieth anniversary has been one of exceeding interest. A large number of the graduates and friends of the Seminary have taken the occasion to visit the scenes of other days and an interest has been awakened in the department which cannot but produce valuable results. An account of the proceedings is to be issued in pamphlet form.

GLEANINGS.

PERSONAL.

— Prof. W. T. Scott, formerly of Franklin College, has been appointed to a professorship in Kalamazoo College Mich., and has accepted the position.

— The Trustees of Lincoln University, have elected the Rev. Thomas W. Cattell, D. D., of Merchantville, N. J., Professor of Mathematics in that Institution.

—President Finney, of Oberlin College, has started out on a lecturing tour against Free Masonry, and asserts that he will not stop speaking until every Masonic lodge in the country has disbanded.

— President McCosh is to address the Society for Religious Inquiry at the University of Vermont at the ensuing Commencement, which occurs the second week in July. Hon. George S. Hillard will deliver the Phi Beta Kappa oration.

— At a meeting of the Board of Trustees of the University of Pennsylvania, Philadelphia held last Tuesday evening, F. A. Genth was elected professor of Chemistry, L. George Franck, Professor of Engineering, and J. P. Leslie, Professor of Geology and Mining in the newly organized Scientific Department.

Professor Coleman, of the University of Virginia, who was elected to a vacant professorship in the Miami University, at Oxford, Ohio, was instantly killed by the cars just before his election. He was attempting to mail a letter to Oxford to permit his friends to present his name in connection with the chair to which he was elected.

— Professor C. U. Shepard of Amherst has just secured for his cabinet the largest ruby known in the world. The largest known before was the size of a man's fist, but this is about two feet high, one foot in diameter, and weighs 316 pounds. It is not a pure ruby, but is mixed with sapphire, and was found in the mountains of North Carolina, quarried by nature out of rotten rock. He paid $300 for it. Professor Shepard has also received from Macon County, Ga., a sapphire weighing thirty pounds.

— The Trustees of Shurtleff College, at Upper Alton Ill., have chosen for the presidency of that institution, Rev. Adin A. Kendrick, now Pastor of the Beaumont Street Baptist Church, St. Louis. Mr. Kendrick has signified his acceptance of the responsible and honorable trust, and has already asked to be released from his pastorate. After studying some time at Middlebury, Vt., he spent a few years in the practice of law at Janesville, Wis., and at St. Louis. In 1859 he entered Rochester Theological Seminary, and graduated in 1861, with the last class under the biennial course. He was Pastor for some years of the North Church, Chicago, and has been with the Church he is now leaving, since its organization four or five years ago. He was prominent in originating the *Central Baptist*, and was for some months its principal editor.

COLLEGE.

— Work on the new building at Michigan University is being pushed forward rapidly.

— Oxford is to be a military center under Cardwell's army organization scheme.

— Work has begun on the new hall of the "Alpha Delta Phi" society of Dartmouth College.

— The girls' boat club of Michigan University will, it is said, participate in the college regattas this summer.

— A new building to be called Conant Hall, is to be erected for the use of the department of Agriculture at Dartmouth the coming Summer.

— Hon. Samuel Williston, of Easthampton, Mass., has signified his intention of presenting $500,000 to Amherst College, to be paid after his decease.

— The land-scrip donated by Congress to the State of Virginia for agricultural college purposes was sold recently for the sum of $285,000.

— The Vassar College girls mistook a bonfire on a distant hill for a meteor, the other night. They wait an hour now after the moon has risen before they dare say it is above the horizon.

— The New Hampshire State Historical Society, in order to get room for books, papers, etc., has given its large collection of minerals to the Agricultural College, at Dartmouth.

— The alumni of Colby University will hold their annual festival at Young's Hotel, Boston, on the 24th

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inst., at 6 o'clock P. M., and invite all former students or holders of degrees from that college to attend with ladies.

— The Jewish University, newly established in Berlin, and including all the faculties customary in German universities, was to have been formally opened on the 6th of May, and the first term will be concluded on the 15th of August.

— The Maharajah of Pattiala, India, has offered £1,500 to the Punjab University College, to found a scholarship in memory of Earl Mayo. The benefactions of this chief to the university now exceed £10,000.

— Hon. Stephen Salisbury, of Worcester, Mass., has recently given the Free Institute of Industrial Science in that city, $40,000, as a fund for the establishment of a department of English and modern languages.

— Mr. C. C. Luther of Worcester, a graduate in the last class at Brown University, will have charge of the crew which that institution proposes to send to the Springfield regatta.

— The 22d anniversary of the Delta Psi Fraternity will be held at the Lawrence House, Burlington, Vt., on Tuesday evening, July 9, The Rev. H. E. Butler is orator, and William T. Carpenter, poet.

— The Amherst College crew as at present constituted, contains Wilkins, Negley and Benedict of the senior, Bradley of the junior and Brewer and Brown of the sophomore class.

— A forty-five-thousand-dollar professorship in the Theological Seminary of the Northwest, at Chicago, has just been endowed by Mr. Cyrus H. Cormick, of that city.

— The first celebration of the Phi Beta Kappa Society at Hobart College, Geneva, N. Y., will take place on the 27th of July, when the annual oration will be delivered by the Rev. Dr. Samuel Osgood.

— A dramatic entertainment for the benefit of the Harvard "nine" is to be given at Horticultural Hall, on Thursday evening, the 23d instant. Undergraduates, aided by a few Boston friends, will give a popular farce and a burlesque.

— Mr. George Hazeltine, M. A., a graduate of Dartmouth College, and an American Attorney in London, has recently donated to Chicago University, a Ruhmkorf coil, which gives a seven inch spark; a large set of Geissler Tubes; a Groves battery manufactured by Ladd of London, and a Griffins Gas Furnace.

— The literary societies of the Amherst Agricultural College, have organized a social union, with F. M. Somers, as president, D. P. Penhallow, vice-president, and G. P. Penshaw, secretary. The university crew of this institution consists of the following men: Fred C. Eldred (stroke), J. M. Benedict, D. P. Barnwell, H. B. Simpson, S. M. Carter, H. H. Player (captain).

— At the Worcester, (Mass.), Technical School, Mrs. Sinclair, teacher of languages, has resigned, and Mr. Edward P. Smith has been appointed to the professorship of languages. Mr. A. S. Kimball has been appointed professor of physics. The ample grounds of the institute are undergoing improvement under the direction of Mr. James Cruikshank, the well-known landscape gardener.

— Considerable interest is awakening in a change proposed by the alumni of the Bangor Theological Seminary, at their annual meeting in June. Instead of a sermon there is to be a stirring discussion upon some living issue. The theme for this year is the following: "In training young men for the ministry in our seminaries, a prominence disproportionate to the claims of other subjects is given to doctrinal theology."

— The thirteenth annual Commencement of the Columbia College Law School was held in the Academy of music, New York last Wednesday evening. An address was delivered by Prof. Dwight, and the Annual Oration by James M. Brady. The valedictory address was delivered by Robert A. Van Wyck. There were one-hundred graduates. In the department of municipal law, the first prize of $250 was awarded to Thomas Joseph Tilney; second prize of $150 to Frederick D. P. Foster; third prize of $100 to John H. Inness. In the department of political science, a prize of $200 was given to James N. McKane.

HERNIA.—It is now demonstrated that rupture can be surely cured without suffering. *Elastic Trusses* are superseding all others. We advise all, before buying metal trusses or supporters, to send for a descriptive circular to the ELASTIC TRUSS COMPANY, No. 683 Broadway, New York.

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THE TESTIMONY OF PROF. HUNTINGTON IN REGARD TO JEPSON'S MUSIC READER.

During a period of twenty-five years in which I have been engaged in teaching, much of the time in schools and seminaries, I have been unable to find a text-book or music manual which would not either confuse the pupils by introducing a multiplicity of ideas in the same exercise or promote *rote singing* by limiting the demonstration of each principle to a single exercise, until I found the system adopted in Prof. Jepson's book, which, in my opinion, must be the one universally accepted and fostered by the public schools of our land. The intrinsic value and merit of the book has been fully demonstrated in the schools of New Haven, where it has been used for the past six years by its author, and in those of Hartford and its vicinity by Prof. R. S. True. One very important feature of the work is that it can be readily understood by subordinate teachers even though not altogether familiar with the science; and with the same preparation for each recitation which is made in every other science, music may be *as* effectually taught, which is shown in all the public schools where it has been adopted.

Prof. Jepson is worthy of high esteem, not only as a thorough musician, but as a philanthropist, placing in the hands of the children and adults of our country a book which will enable them to successfully cope with the musical progress of the age.

C. W. HUNTINGTON, *Hartford, Conn.*

TESTIMONY OF HON. BIRDSEY G. NORTHROP, SECRETARY OF THE STATE BOARD OF EDUCATION OF CONNECTICUT.

Mr. Benj. Jepson, the instructor of Vocal Music in the public schools of New Haven, has shown great tact and skill in teaching singing by note to even the youngest pupils in the schools of the city. His system has been long and thoroughly tested in New Haven, where it is now working admirably. Gen. Eaton, National Commissioner of Education, and Gov. English, when visiting the schools of this city, expressed their surprise and gratification at hearing children in the primary schools sing *at sight* various exercises marked at the time on the blackboard. I should be glad to find the system which has here been so successful, generally adopted. Certainly, music should be taught in all our schools.

B. G. NORTHROP,

Secretary State Board of Education.

FROM PROF. HIBBARD, THE ELOCUTIONIST.

Prof. Jepson's method of teaching singing, as arranged in his "Elementary Music Reader," is of a *very superior order*, and in our schools will do everything that can be reasonably expected of a work of the kind.

RALPH G. HIBBARD, *Professor of Elocution.*

The following is the testimony from the principals of the public schools of New Haven, Hartford and Middletown, where the system has been tested thoroughly:

I am familiar with Mr. B. Jepson's methods of instruction in singing as laid down in his "Elementary Music Reader," and as exemplified in his own practice. The "Reader," both in the earlier and later editions, has been used in our schools, and I am convinced that if the course there indicated be followed with tolerable energy and perseverance, the results will demonstrate the great value of the system and of the book.

H. E. SAWYER, Superintendent of Schools, Middletown, Ct.

I have been using "Jepson's Elementary Music Reader" for some months and am desirous of expressing my ever increasing satisfaction with it as a text book. Having been written by a gentleman who has had a large experience in this hitherto neglected but very important branch of education, it exactly meets the want felt in all schools, public or private, where music as a study is being introduced. The explanations are so simple, and the exercises so easy, progressive and attractive that the book commends itself to all who use it—and teachers with only a moderate knowledge of music will be able, by its use, to teach thoroughly and practically.

A. L. CURTISS, Teacher of Vocal Music, South District Schools, Hartford, Conn.

We have tested Prof. Jepson's "Music Reader" in the various grades of our school, and find them most admirably adapted to their purpose.

D. P. CORBIN, Principal Asylum Hill Grammar School, Hartford, Conn.

Every exercise which is undertaken in the school-room should be executed honestly and thoroughly. I have always regarded the "Elementary Vocal Drill" as the exercises of all others the most reluctant to conform to this rule. In overcoming the difficulties of the exercise, I have received more help from Mr. Jepson's system of elementary vocal drill than from any other.

JOSEPH GILE, Principal of Eaton School, New Haven.

Prof. Jepson's Music Reader is, in my opinion, the most systematic and best adapted to school use, of any work of its kind now before the public. I have entertained a high opinion respecting its merits, since first seeing it in manuscript—*an opinion which its use in the school-room for several years has greatly strengthened.* Prof. Jepson is deserving of the praise which his highly meritorious work receives, and we cheerfully add our testimony to the above.

RALPH H. PARK, Principal of Wooster School, New Haven.

"Jepson's Music Reader" has been used in the daily practice of vocal music in this school since its organization. The results have been, not only satisfactory, but wonderful. The system is such that children reading in the Primer or First Reader can learn to sing the scale, first by numeral, then by syllable, then simple melodies in different keys, and so on through the elements of music. The children in the Grammar Department are able to sing new music at sight in four parts. The time spent in the daily practice is from fifteen to twenty minutes.

H. C. DAVIS, Principal Skinner School, New Haven.

It gives me much pleasure to testify of the success attending the study of vocal music in our school under the superior management of Prof. Jepson. Mr. J. is thoroughly qualified for his work, and enters into it with a zeal that is highly commendable. Not being satisfied, however, with what he has already done, he has conceived the idea of revising his "Elementary Music Reader," making a complete and easy gradation of exercises adapted to the wants of the younger as well as the older pupils. Mr. Jepson has already established an enviable reputation in New Haven as a teacher of vocal music, and his revised work, so admirably adapted to school use, will no doubt meet with a large sale.

GEO. R. BURTON, Prin. Wash. School, New Haven.

For several years I have had the opportunity of observing Prof. B. Jepson as a teacher of music in public schools, and more particularly in our own High School. In his department of instruction, I have never known his equal in securing early and valuable results. Whether his success has been mainly due to his own personal efficiency or to the peculiar features of his system as comprised in his "Music Reader," I cannot tell; I only know that the training he gives is thorough and natural, and that his pupils early learn to sing with a rare degree of intelligence and self-reliance.

T. W. T. CURTIS, Principal of High School, New Haven.

Mr. Jepson's work and methods in teaching music in the New Haven public schools is an undoubted success. I would cordially commend his books to the attention of all who have an interest in this study in schools.

JOHN G. LEWIS, Principal of Webster School, New Haven.

It gives me great pleasure to recommend Prof. B. Jepson's system of music and vocal culture. At the time of its introduction I doubted the utility of teaching note singing in our large schools, but its perfect success has disarmed prejudice, and I should now regret any change which would deprive us of instruction so valuable. Very truly,

L. L. CAMP, Principal of Dwight School, New Haven.

It gives me pleasure to recommend Prof. Jepson's "Music Reader" to any wishing a thorough course of instruction in music in their schools. The books are, as their title imports, a *series* of music readers *systematically* and *progressively* arranged for the use of all grades of pupils, from the Primary to the High School These readers have borne *most successfully* the best test of school books, namely, a daily use in classes for a term of years; and have been instrumental in convincing the most skeptical that all can be taught to read music with facility by the time that they are prepared for the High School.

JAMES D. WHITMORE, New Haven High School.

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From Yale Courant, May 15, 1872.

The COURANT board has been presented with a fine umbrella formerly the property of President Edwards. It was accompanied by a carefully prepared pedigree and we have no doubt of its authenticity. We return the heartiest thanks to the donors.

The Farnamites are soon to have new steam heaters placed in their rooms, the advance guard of workers have already reached them, and the lordly ones on the first floor will soon experience the dissatisfaction of finding things in their rooms decidedly mixed. This early commencement has been necessitated by the fact that the summer vacation is not a sufficient time for getting up all the heaters.

The freshman class held a large and enthusiastic meeting last Saturday, to discuss the propriety of having a class-supper at the end of the term. Sentiment seemed to be unanimous in its favor and the following committee was appointed to take the matter in charge: Bulkley, Carrington, T. Clark, Day, Holden, D. Jones, Selmes, and Seymour. Betts, Davis, Noyes, and Tillinghast, were elected historians for the occasion. Cook, captain of the class crew, having resigned, Post, was elected to fill his place.

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, MAY 25, 1872. NUMBER 21.

THE FIRST HALF CENTURY OF THE YALE THEOLOGICAL SCHOOL.*

BY PROFESSOR GEORGE P. FISHER.

The Department of Theology in Yale College is fifty years old; but Theological Instruction here dates from the very foundation of the College. The Seminary, as a distinct establishment, grew out of provisions that had existed before, for the education of ministers. It was only the fruit and consummation of what had been planted earlier; a new step taken in an old path. In presenting a sketch of the origin and history of the Seminary, it is necessary to give some account of what the college had done before in the work of theological education. If the fathers of New England had organized no means for the training of a minister in liberal and professional studies, it would be, considering their spirit and aims, the most unaccountable fact in their history.

A modern artist has chosen for the subject of an impressive painting, the Return of the Mayflower. On the desolate shore at Plymouth, there stand, apart from one another, two or three little groups of pilgrims, their eyes intently fixed upon the solitary vessel as it recedes out of their sight. They are watching to see the last link severed, that bound them to their old homes, to the populous and civilized lands of Europe, from which they are now sundered by the dreary and almost impassable ocean. It may help us to imagine the sense of loss and separation that was felt by the founders of New England when they found themselves cut off from the loved abodes of civilization and culture, and thought of what might befall them and their posterity after them. Especially must the first ministers of New England, the men who had been trained at Emmanuel College in Cambridge or at Brazen-nose in Oxford, or at some other college in the ancient universities of their father-land, have missed the genial associations,—the scholarly circles and pursuits, the learned libraries, which had been their delight. Still more must they have been concerned lest, in this inhospitable soil, far from the old hearth-stones of culture and religion, with the necessity of constant toil and of warfare with the savages that was imposed upon the settlers, learning should die out. In particular must they have been concerned to provide educated ministers for the churches of a community which had been transplanted to this distant region for the avowed purpose of preserving and diffusing and handing down the principles of a pure Christianity. One of the noblest and most characteristic events of that heroic age of New England history, was the act of the Legislature of Massachusetts Bay, passed only ten years after the first landing at Salem, for the founding of a college. In the midst of all their poverty and privations, they crowned their school system by the establishment of such an institution; and the first commencement of Harvard College was held in 1642. The first inhabitants of New Haven Colony were not behind their Massachusetts brethren in zeal for education and religion. John Davenport planned a college; and this and other like schemes were postponed chiefly for the reason that the people of Massachusetts thought that one college was enough for the scanty population of New England. At length in 1700, the ten ministers, who acted as the organs of a general wish on the part of the clergy and the people, formed themselves at New Haven into a society, and, shortly after, at their second meeting, held at Branford, completed their act of founding a college, by the formal donation of books to serve as the nucleus of its library. The design of the founders of both Harvard and Yale, as is evident from their solemn declarations, as well as from their character and the spirit of the times, was pre-eminently religious. The interests of religion were foremost in their thoughts. It was the "religious and liberal education" of youth which they designed to accomplish. They intended to educate civilians as well as clergymen; to train young men for service in church and state. Yet, as was natural, the education of ministers was the most prominent object which they had in view. Both Harvard and Yale were modeled in general after the English colleges: Yale having before it, also, the example of its older sister. In the English Universities, the Faculty of Theology, like the other professional Faculties, never attained to a distinct, corporate existence, as was the case at Paris and other continental universities. Another striking peculiarity of the English system was the extent to which the university was absorbed in the colleges, so as finally to be almost supplanted by them, instruction being given within the colleges or to their inmates. The first ministers of New England went, or might go, directly from their colleges at Oxford and Cambridge, to their parishes. The obligation of a continued residence between the reception of the B.A. and M.A. degree was gradually given up. It was formally abrogated at Cambridge in 1609. The students of the various colleges pursued their studies *domi forisque;* that is, within the colleges under their tutors or in the public schools under the university lecturers or professors.

It is only necessary to look at the course of study at Harvard in the early days, which was followed substantially by Yale, to see that theology was a prominent and even a principal study. Besides the *trivium* and *quadrivium*, the humanities and mathematical and physical science—the studies that would ordinarily fall under the Faculty of Arts,—the various branches of theology held at a high place. "The course of study at Harvard," says Dr. Palfrey, "adopted from the contemporaneous practice of the English Universities, consisted of Latin and Greek (in which some proficiency was required for admission); of logic, arithmetic, geometry and physics; and of Hebrew, Chaldee, Syriac and Divinity,—the forming of a learned ministry being a main object of the institution."† The Latin theses which the students discussed at their graduation were often on topics not inappropriate for the College of the Sorbonne. At Yale, the curriculum was of the same general character. Besides the drill in logic and syllogistic disputation, there were regular recitations in Treatises upon Dogmatic Theology, Ames and Wollebius being the favorite text-books, and also in Casuistry, besides the study of the Hebrew and Greek Scriptures. "In general," writes President Woolsey, "it may be said that the system pursued by the earlier teachers rested upon logic and theology, and pre-supposed that the students would choose the clerical profession, rather than the offices of civil life. To this cause is to be ascribed the part which the study of Hebrew played for a considerable period."* "The institution which they founded," says Dr. Bacon, speaking of the fathers of New England with reference to Harvard and to Yale, "was essentially, in fact and in design, a theological seminary;" but not exclusively such, since it was assumed that the same studies that would train men for office in the churches "would at the same time train as many as might be required for places of magistracy in the commonwealth."‡

It will be interesting to look for a moment at the way in which the graduates of the college were introduced into the ministry, during the first half-century, or prior to the appointment of the Professor of Divinity. In some cases here, as at Harvard in the same period and in the preceding century, they began to preach at once, or almost immediately after their graduation. Thus Jacob Hemingway, who was at one time the sole student in Yale and whom Dr. Stiles calls the "first undergraduate," received his first degree in 1704. On the 20th, of the next November, the village of East Haven voted to ask him "to give them a taste of his gifts." He continued to be their preacher until the organization of a church and was then ordained as its pastor. It was not uncommon for the graduates of Harvard to begin to preach within a year after they received the Bachelor's degree. This was done, for example, by Dr. Increase Mather who graduated in the class of 1656, and by Dr. Benjamin Colman, a noted preacher in his day; and Dr. Samuel Cooper, his collegue in the Brattle street church, one of the most eloquent and famous ministers of his time, was called to his office about a year after his graduation when he was only nineteen years of age. His case was considered remarkable merely on account of his youth and of the importance of the station in which he was placed. Abraham Pierson, one of the founders of Yale, was the assistant of his father in the ministry at Newark, when, a year after his graduation, he was invited to become a pastor at Woodbridge in the same State. Not unfrequently at Harvard,—and the same custom probably existed here, young men who were to become ministers, in case they were not made tutors, remained for a time as resident graduates. Thus Jonathan Edwards, the elder, whose name is the most illustrious on the catalogue, was a resident graduate for two years and then went to take charge of a congregation in New York. Edwards was not quite seventeen when he took his Bachelor's degree. The early age at which many of the candidates for the ministry graduated in those days, was a hindrance in the way of immediately assuming the pastoral office. In most cases, they spent some time with a minister, reading theological books under his direction and learning the practical part of their calling by assisting him in his work. But the learning of the profession was chiefly acquired at college. The custom of licensing young men to preach, by a formal or informal association of ministers, came into vogue gradually in the early part of the eighteenth century; and Mather in his *Ratio Disciplinæ* expressly mentions Ames's *Medulla Theologiæ*, which was the college text-book, as the work in doctrinal theology on which the candidates for a license might properly be examined. The first appearance of anything that can be called a school of theology, separate from the college, is connected with the rise of the New Divinity, as the Edwardean theology, the system favored by the revival preachers, was termed. Bellamy was one of the earliest of these private instructors, to whom young men resorted to study divinity, and who adopted something like a systematic method of teaching them. The modification of the traditional theology by the new school awakened the curiosity of young men, and promoted discussion and inquiry. There was a new style of thinking and a new style of preaching; and this change gave rise to a new form of instruction. Bellamy had graduated at the age of sixteen and had begun to preach when he was only eighteen. His power and fame as a preacher, coupled with the novelty of some of his opinions, drew to him pupils. But the course of study in these private schools was mostly confined to doctrinal theology, and was often very brief. Thus, Hopkins soon after his

*A Historical Discourse, delivered before the Alumni of the School, in the Centre Church, New Haven, Wednesday evening, May 15th, 1872.

* Historical Discourse, p. 57.

‡ Commemorative Discourse at Andover, p. 6.

† History of New England, II, 48.

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graduation in 1741, went to live with Edwards at Northampton, but he was licensed to preach after four months, and the whole period of his residence with Edwards was only eight months.

But although in the first half century of the college, theology was favored, in conformity with a particular design of the founders, which was impressed upon the institution from the start, it must be remembered that the course of study in all branches, unless logic be an exception, was meagre. The preparation for admission was small, and in Hebrew and Greek, little more was done, for a considerable time, than to read the Psalter and a portion of the New Testament in the original tongues. Dr. Stiles, a graduate of the class of 1749, is said, indeed, to have neglected Hebrew for the reason that he did not expect to be a minister; but he was able to take with him from college so little knowledge of that language, that at the age of forty, when a pastor at Newport, he began the study of the rudiments of it afresh, under the tuition of Jewish rabbies.

The next era in the history of theological instruction in Yale College commences with the appointment of the Professor of Divinity, in 1755, during the administration of President Clap. Doctrinal controversies had arisen in connection with the preaching of Whitefield and the Great Revival, and the Corporation were dissatisfied with the preaching in the First church, which the students attended. Accordingly they had resolved as early as 1746 that they would appoint as soon as practicable a Professor of Divinity, and in 1753 they established separate worship within the walls of college. The new professor was not only to be the college preacher and pastor, but his appointment had reference, also, to the instruction of candidates for the ministry in the studies preparatory to their office. The General Assembly of the colony in 1753 recommended the churches to make a general contribution for the endowment of the new chair, on the ground "that one principal end proposed in erecting the college was to supply the churches in this colony with a learned, pious and orthodox ministry; to which end it was requisite that the students of the college should have the best instructions in Divinity, and the best patterns of preaching set before them." The contemporaneous proceedings of the Corporation contain like declarations in even a stronger form. The action of the college in establishing separate worship and in ordaining strict doctrinal tests to be imposed upon the officers of government and instruction, did not pass without opposition. President Clap, whom President Dwight justly considered the ablest man who had ever stood at the head of the college, and whose successful vindication of its right to be exempt from visitation on the part of the legislature has won the high commendation of Chancellor Kent, defended the action of the Corporation respecting religion, in his pamphlet, published in 1754, on "The Religious Constitution of Colleges, especially of Yale College." He starts with the proposition that "the original end and design of colleges was to instruct and train up persons for the work of the ministry." He explains the religious aims of the founders of Yale and quotes their own exposition of the motives that impelled them. "The great design," he says, "of founding this school was to educate ministers in our own way."* The Corporation fully supported the President's views. They declared that "the principal design of the pious founders of this college was to educate and train up youth for the ministry, in the churches of this colony, according to the doctrine, discipline and mode of worship, practised in them."

From this time dates the post-graduate instruction in Theology in Yale College. But before I leave this early period in which we were still in the loins of our parent, I may advert to the noble donations of Bishop Berkeley to the Library; donations which comprise a great number of standard works in theology as well as in classical and general literature; a list so well chosen that few of them, after this long interval, have lost their value. The collection of about a thousand volumes which were transmitted to the college in 1732 by the great metaphysician, to whom Pope, without hyperbole, ascribes

—"every virtue under heaven,"

was the largest collection which up to that date had ever been brought into America at one time. The gratitude of Rector Clap moved him to say, after the death of Berkeley, that the college would probably always retain "a favorable opinion of his idea of material substance," as consisting "in a stated union and combination of sensible ideas." But the present incumbent of the presidential office appears not to have considered it essential to the due exercise of thankfulness towards the good Bishop, to adopt, in his learned treatise on the Human Intellect, the ideal theory of matter.

"From the establishment of the professorship of Divinity in 1755," says Professor Kingsley, "and probably from a much earlier time, there had been generally at the college a class of resident graduates, who were pursuing the study of theology."* He adds that their number varied considerably in different years. It was a part of the recognized function of this Professor to aid and instruct theological students in their professional studies. This was fulfilled by Daggett, Wales, and Dwight in the case of a large number whom they trained for the clerical office. The Professor of Divinity, in addition to a course of sermons on the doctrines of theology, which were delivered on Sunday forenoons, and which, though designed for the benefit of all the undergraduates, were thought to be especially conducive to the instruction of those who were intending to become ministers, usually gave a weekly lecture on some theological topic, in such a way that the lectures, taken together, would constitute a complete system. I gather from Dr. Stiles's diary that this lecture, when it was given by him, in consequence of an actual or virtual vacancy in the professorship, was addressed to an audience composed of resident graduates, and a select number of older undergraduates,—those, probably, who were preparing for the ministry. The rest of the instruction and assistance which were rendered to candidates for the pulpit, by the Professors of Divinity, varied doubtless according to the preference of the successive incumbents of the office. In a statute relating to the Professor of Divinity, which is found in the edition of the laws, printed in 1795, it was defined to be "his duty to give from time to time such lectures and private instructions to the resident graduates and students, as he shall judge may best preserve and promote the religious interests of the college, and tend most effectually to form for future usefulness in the work of the evangelical ministry, such of the students as shall appear desirous of being prepared for it." It was the duty of the Professor of Divinity," says Dr. Fitch, writing in 1822, "not only to be a pastor of the church and a religious teacher of the pupils, but also to furnish such students in theology as might be reared in the college, or choose to resort to it, with assistance in their studies preparatory to the ministry. The history of what has been done in theological instruction in the college, is in conformity with this design"—a design which Dr. Fitch has before explained—"of its founders and benefactors. Theological instruction has always been given to the pupils of the college and to students in divinity; and there has been maintained in the college a strictly theological school. The Rev. Professors Daggett and Wales, and the Rev. President Dwight, in his capacity of Professor of Divinity, have, each successively, given instruction to students in theology, and prepared many for the ministerial office, who have been highly distinguished for their usefulness in the churches." Of the large number of graduates of the college who, since the founding of the Professorship of Divinity, have entered the ministry, "a great portion," says Dr. Fitch, "have been qualified for their labors by pursuing their theological education at this college."* It was the custom of the presidents of the college in the last century to deliver lectures to the students on a great variety of subjects. But Dr. Stiles, the next year after his election to the presidency, was formally chosen by the corporation Professor of Ecclesiastical History, and lectured on this subject in the College chapel. There seems to have been a desire to keep up instruction in this branch. In 1805, Mr. Kingsley was made Professor not only of Languages (of which Hebrew was one), but also of Ecclesiastical History; and I find it stated by President Dwight, in his Statistical Account of New Haven, and in his Travels in New England, that a complete course of lectures in this branch was to be given in the college.† Of President Dwight's ability and success as a theological teacher of numerous classes of resident graduates who came under his tuition in successive years, there is no occasion that I should speak. Pupils like Moses Stuart, Lyman Beecher and Nathaniel W. Taylor, who loved and honored their teacher more than they loved and honored any other mortal, are the best witnesses to his commanding power and excellence.

With the death of Dr. Dwight, we approach a new epoch, that of the organizatipn of theology into a distinct department. More and more in the progress of knowledge and from the altered spirit of the times, other studies had encroached upon the domain of theology, in the undergraduate curriculum. Old sciences were expanded and new sciences arose, so that little room was left for branches having a direct relation to the profession of a minister.

Under President Clap the study of mathematics and physics was much extended. About the year 1770, through the influence of Dwight, Trumbull, the poet, and other Tutors, rhetoric and English literature were brought in; at the beginning of the present century, the new branches of natural science were introduced; and later still the modern languages began to knock at the door for admittance.

In the meantime, a higher and more varied theological culture seemed requisite for the ministry, and new controversies called for a more advanced scholarship on the part of religious teachers, than had been thought necessary before. In consequence of the want of a rounded, systematic training in the different branches of theology, the ministry, at the close of the last, and in the early part of the present century, had, as regards the scholarship and learning which pertain to their profession, not advanced; although they were often men of eminent acuteness, wisdom and force. To President Dwight, whose large and comprehensive mind was capable of striking out a new path, of establishing new studies and new courses of study, when the time had come for them, even if they were not demanded by the public, belongs the credit of suggesting and recommending here an enlargement of the means of theological instruction. I had it from the lips of Dr. Taylor, that when the project of a seminary at Andover, was under discussion in Massachusetts, the advice of Dr. Dwight was sought by Dr. Morse of Charlestown and Dr. Spring of Newburyport, who visited New Haven for the purpose of consulting him. He expressed to them his warm approval of the proposed undertaking, but at the same time assured them that he had long been desirious of providing a more complete and systematic course of theological instruction in Yale College; and that he should embrace the earliest opportunity of carrying out, in this particular, what he deemed to be the design of its founders. After the interview with these gentlemen, he stated confidentially to Dr. Taylor, who was then his amanuensis, that his eld-

*p. 15.

*Sketch of the History of Yale College, Quarterly Register, 1836.

*Ms. Statement to the Prudential Committee, (April 23, 1822).

†In 1798 Mr. Ebenezer Grant Marsh was appointed Hebrew Instructor, to teach both undergraduates and graduates, a small fund having been given for the support of such a teacher, by the Rev. Dr. Salter. Mr. Marsh died in 1803.

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est son, Mr. Timothy Dwight, a merchant of New Haven, had invested a sum of money in a business enterprize, which, with the profits arising from it, was to be ulti mately given for the object just stated.

In order to appreciate the merits of President Dwight, we must not limit our attention to his writings, although his published sermons have exerted a vast influence not only in this country, but also in Great Britain, where, as I was told by the late Professor Goodrich, they have passed through not less than forty editions ; so that his grave is still visited by pilgrims from afar, by men prominent in the pulpits of England and Scotland. His hymn —" I love thy Kingdom Lord "—is sung wherever the language is spoken. We should not confine our attention to his sermons, for sermons with rare exceptions, lose their peculiar vitality when the generation is gone that heard them. Nor can we judge him by the echo, that tradition brings down, of his pathetic eloquence in the pulpit, although he was undoubtedly one of the foremost preachers of his age. We are not in a position to admire his extraordinary conversational powers, which impressed all his contemporaries ; to hear him pour out the treasures of a mind which had been enriched by much reading, by observation and by intercourse with men. How different would be our estimate of Johnson, if we only had *Rasselas* and the *Vanity of Human Wishes*, and Boswell had never lived! President Dwight's power lay, to a great extent, in his personal influence upon men ; and it has appeared to me a remarkable proof of his eminent qualities that three persons, so unlike one another in their native powers and in their pursuits as Dr. Taylor, Prof. Kingsley and the late Prof. Silliman looked up to him with equal reverence. But there is one monument, which all may contemplate, of the talents and worth of President Dwight ; and that is Yale College. What he accomplished in building up the college, in bringing in new sciences, in enlarging and strengthening the old foundations, no one who knows its history can fail to appreciate. It was characteristic of him to plan the theological department, and to set on foot the agency by which his thought was to be realized.

Dr. Fitch was made Professor of Divinity in 1817, and before he had been in office many years the project for a seminary took a definite form. In 1822, fifteen students of the class to graduate in that year petitioned the faculty that they might be organized into a theological class. Dr. Fitch supported this request in an elaborate paper addressed to the Prudential Committee of the Corporation, a passage from which I have already had occasion to cite. In this document he stated that, as Professor of Divinity, it belonged to him to attend to the duty which had been requested of him in that application ; that in accordance with this obligation he had given private lectures, once or twice weekly, to theological students since his induction into office ; that the standard of theological education had been very much advanced since the establishment of the office of Divinity Professor ; that it was impossible for him to take charge of the instruction in the different branches of theology, and at the same time perform the work which devolved on him in the academical department, especially as his health was impaired ; that to refuse the application of the students would be to abandon an important design of his office. The question that he submitted was " whether exertions shall be made to add a new professor to the college who shall take a part in the education of the theological students and the duties of the chapel ; or shall the education of students in theology be wholly discarded from the college." The object of educating students in theology, he said, must be either pursued or abandoned. Against the adoption of the latter alternative, he argued with much earnestness, from the primitive design of the college, from all that it had accomplished, in the past, in the work of educating ministers, and from the advantages to be anticipated from the institution of a theological department. " The committee," he said, " will take into consideration this primitive design of the college, while deliberating on the question which the Professor of Divinity now proposes to them ; and may he be permitted respectfully to ask of them whether, when acting as guardians over the trust of our pious ancestors, they can consistently convert a school, held sacred by them to the purposes of the ministry, into a mere school of science ?" whether " they shall wholly discard a theological department so clearly intended by the founders, to be the chief pillar and ornament of the college ?" The college Faculty, then consisting, besides President Day, and Dr. Fitch, of Professors Kingsley, Silliman, and Goodrich, responded in the same spirit to the new proposition. Their views are expressed in a paper which commences as follows : " The principal design of our pious ancestors in establishing a college in this State, was, in their own words, ' to educate andtrain up youth for the ministry.' The instruction given in literature and science they regarded as preparatory to a higher object, a regular education in theology ; and the college, in their view, combined the character of a literary and a theological institution. The Professor of Divinity was therefore expected not only to be the religious guide and teacher of the undergraduates, but likewise to preside over a course of theological instruction for those of the resident graduates, who were preparing for the ministry. In conformity with this design a systematic course of education in theology has been maintained in the college for a long succession of years ; and a great number of able and devoted ministers have, by the blessing of God, been thus raised up for His service." They then set forth the occasion of the necessity for an enlargement of the means of theological instruction here. " A question of deep moment," they say, " is therefore presented to the friends of religon : shall the department of theological instruction be now abandoned and Yale College become merely a literary institution ? or shall an effort be made to *extend* this department and place it on a respectable and permanant foundation ?" The faculty proceed to suggest that the great end in view can only be attained " by the additional services of a professor devoted to the theological class ; to be aided in the department of Hebrew Criticism by the Professor of Languages ; in Sacred Rhetoric by the Professor of Rhetoric and Oratory, and in Greek Criticism and Systematic Theology by the Professor of Divinity." The paper dwells on the demand for educated ministers, and on the great benefits that are likely to result to the college from a theological school in connection with it. The alternative, they affirm, is the abandonment of instruction in theology in Yale College and the defeat of "the original design of its founders and patrons." It was thought necessary that the sum of $20,000 should be subscribed for the endowment of the new theological professorship. In an elaborate Appeal from the Corporation to the people of New Haven to contribute to such a fund, which I conjecture to be from the pen of President Day, it is stated that " this college in its original constitution was a literary and a theological institution," that the Professor of Divinity can no longer be the sole instructor of a theological school, in addition to his other labors, and that hence " it is proposed to separate the department of theological education from the college." The case is argued more briefly, but in much the same manner as in the two documents which have just been described. In all these papers, the need of one other theological seminary in New England is asserted, and the concurrence of the friends of Andover in this opinion is affirmed. Mr. Timothy Dwight came forward with his subscription of $5,000, which would have been subsequently increased if he had not been prevented from carrying out his purpose by misfortunes in business. The required fund of $20,000 was made up. The Corporation in their act which established the Theological Department, founded their proceeding on the fact that " one of the principal objects of the pious founders of the college was the education of pious young men for the work of the ministry." It is a happy circumstance that the Professor of Divinity, the College Faculty and the Corporation were in full accord as to the desirableness of this important measure, and in the views and motives on which it rested. In the judgment of all, the question was, to quote the language of Professor Kingsley, " whether the instruction of students in divinity should be abandomed, or the means of aiding them in their professional studies should be so enlarged, as better to correspond with the existing state of theoloical learning."* And a leading motive of all the parties concerned in the movement, was the consideration of fidelity to an original design of the college which had been pursued in every period of its history. It was voted that in commemoration of the services of President Dwight, the new Chair should bear the title of the Dwight Professorship of Didactic Theology. The Rev. Nathaniel W. Taylor, who had then been pastor of the First Church in New Haven for ten years, was chosen to fill the office. At first Prof. Kingsley instructed in Hebrew, and if the vote of the Corporation was followed, in church history ; and Dr. Fitch in the Greek of the New Testament, and in the criticism of sermons. It was understood from the outset that the new department was to be " a distinct institution in its funds, its officers, and its government." The aid rendered by the college professors, with the exception of the Professor of Divinity, was voluntary, and was expected to continue only until the seminary could supply itself with additional teachers of its own. It had no building of its own until the old Divinity College was finished, in 1836.

In this way, the Divinity School, as a separate establishment, was fairly launched. But behind a written history, there is often an unwritten ; and there are two circumstances that form the complement of the narrative which I have just given. One was the perceived fitness of Dr. Taylor for the post of a theological professor. If there was a place that needed a man, it was felt that there was a man who was eminently adapted to the place. He had attained celebrity as a preacher by the clearness of his expositions of the Gospel and by the impressive power of his sermons. The individuals who were chiefly interested in building up theological instruction here, wished that young men who were looking forward to the ministry should be taught by him. His agency in an extensive revival of religion, which occured in 1820, established them in this desire. The other fact is the influence of Professor Goodrich, who, although his name is not conspicuous in the documents relating to the new organization, was probably more active and efficient than any other, in overcoming the obstacles that stood in the way of the movement. His practical sagacity and untiring energy were indispensable, from the inception of the enterprize to its full accomplishment.

In 1824 Professor Gibbs was appointed Professor of Sacred Literature, both of the Hebrew and Greek. Professor Fitch continued to give instruction in Homiletics. Professor Goodrich was not formally appointed to the professorship of the Pastoral Charge, until 1839 ; but from the beginning his relations to the professors were so intimate and his services to the Seminary so constant, that we commonly think of him as virtually a member of the faculty from the outset. I should not omit to state that he is among our most liberal benefactors. Taylor, Fitch, Gibbs and Goodrich made up the corps of instructors through the long term that constitutes the first period in the annals of the Seminary. They were all men of uncommon ability ; they were well united in theological opinion and in their general spirit and aim ; and yet they were marked by a striking individuality. Each was quite dissimilar from all the others. Indeed they were so unlike in their native characteristics and in the peculiar work which they fulfilled, that it seems impossible to weigh them in any comparative estimate. Unquestionably the central figure in the Seminary was Dr. Taylor. This was not due merely to

* Sketch of the History of Yale College, p. 207.

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his intellectual powers, or to his magnetic quality as a teacher, but was owing in some degree to the fact that the taste of the time turned strongly in the direction of metaphysical theology. I have not room for the attempt to characterize at length this body of friends and associates. Dr. Taylor blended the attributes of a philosopher and an orator; of a philosopher subtle, logical and strong to deal with the most intricate inquiries; of an orator whose conceptions were vivid as well as clear, and whose earnest and impressive delivery enabled him to enchain the attention and sway the feelings of his hearers. When he rose in any assembly

—"His look
Drew audience and attention still as night."

Many can look back in memory to his lecture-room, and see him in his chair, discoursing upon the high themes of moral government; lifting his dark, lustrous eye as he closed a sentence of peculiar point or weight; then proceeding in that deep-toned, modulated voice, and rising at times to a strain of powerful and stirirng eloquence. You cannot know him from his printed works. There was vastly more in the man than can be transferred to paper. Everything seemed different when it was warm from his lips. His extemporaneous flashes often surpassed his most elaborate discussions. He had a royal nature; a weight of personality, more easily felt than analyzed; an intellectual fascination that cast a spell over all within the circle of his influence. His heart was the fit associate of such a mind. He had a soldier's courage that rose, as dangers thickened; but he was as gentle and loving as a child. He had no malice. He loved his fellow-men, and desired their love and confidence in return.

If Dr. Taylor united in himself the metaphysician and the orator, Dr. Fitch was a mingling of the metaphysician and the poet. He was a philosopher who appeared to me as well qualified by nature for deep and far-reaching theological inquiry as any man of whom I ever had knowledge; yet he had the temperament of a poet and carried into every product of his mind an artistic feeling. In one mood he might appear a dry metaphysician, living amid abstract relations and caring for naught else; in another mood, imagination had the mastery and a singular pathos infused itself into his voice and pen. His brief series of lectures on Homiletics were considered at the time and for the time to be unsurpassed in merit.

Professor Gibbs was the scholar of the faculty; patient, accurate, thorough and conscientious in all his researches, cautious and naturally skeptical in his intellectual habit, but with a profound religious sense, and a candor more beautiful than the highest gifts of intellect. Lord Melbourne jocosely said that he wished he were as certain of *anything* as Macaulay was of *everything*. This implied criticism would never be made of Professor Gibbs. There were not many things of which he was absolutely certain. His colleagues were men of a robust tone of intellect. They were disposed to conclude and settle things. They did not like to hold their minds long in abeyance, or to hang up unsolved questions. It was a fine arrangement of Providence, that connected with them this accom plished philologian, who far outstripped them in Biblical learning, as they were not reluctant to acknowledge, and whose doubts and misgivings, as Baxter said of Sir Matthew Hale, were as valuable as other men's arguments. All students who were fond of exegettical study and knew how to ask questions, highly appreciated the teaching, as they could not but honor the scholarship and christian excellence, of Professor Gibbs.

Dr. Goodrich had a greater variety of accomplishments than either of his associates. He was a discriminating and sound theologian, he was a cultured man and versed in literature, he took into view the manifold interests and undertakings of the church, he had an enthusiasm of character, a contagious fervor that never grew cool; and besides these qualities, he was possessed of a practical tact, a power of finding means for ends, a readiness and shrewdness, which, in connection with his familiarity with the world of men, his self-denying benevolence, and his catholic spirit qualified him to render services to the institution for which his colleagues were less competent. Had he been bred in the Roman Catholic church, at a former day, he would have been the general of an order, superintending its missionaries, with unselfish zeal, in the remotest parts of the globe, and making his power felt in the cabinets of rulers.

If we turn from the faculty to the students, we find, as one distinguishing trait, that they were an enthusiastic body. About six hundred young men had received their education here, either wholly or in part, before the death of Dr. Taylor. Of this number there were comparatively few whose minds were not aroused and stimulated and who did not pursue their studies with an unusual enthusiasm. They went forth to their work with ardor and hopefulness, with the feeling that there were great things for them to do, that preaching is no perfunctory task but a mighty instrument in doing good. If sometimes this confidence in the power of lucid exposition and in the practical effectiveness of logic was too great, a little experience corrected the error. As a class I think it would be allowed by impartial judges that they have come up fully to the average degree of ministerial usefulness and have reflected credit upon the school where they were trained. I am not aware that the uncommon intellectual activity, the zeal for theological discussion, that prevailed here, operated on the whole to chill the sprit of piety. The instructors were all men of earnest religious character; they kept their eye on the practical work of the ministry; they were familiar with revivals of religion, and their pupils in many cases caught their spirit. On our list are foreign missionaries like Azariah Smith, and, at a later day, Macy and Aitchinson both of whom died in China; and home missionaries, not only the Illinois Band of which President Sturtevant is one of the survivors which did a great work for Christianity and for civ ilization in that State, but also many others who in the infant commuities of the West have planted the faith and the religious and educational institutions of New England.

The seminary had not been many years in existence when it was obliged to pass through a tempest of controversy. Dr. Taylor and Dr. Fitch followed the example of the New England divines before them in thinking for themselves, and all their conclusions did not square with what many of their contemporaries received as true orthodoxy. Under the auspices of President Edwards and his followers, there arose what was termed, in the last century, New Divinity. The leaders set out to defend the Calvinistic system against formidable objections which were brought against it by the Arminians of that day, in Old England and New England. But as it often happens in like cases, as it happened, for example, to Grotius when he undertook to vindicate the church doctrine of the atonement against Socinus—the system was modified in the very process of defending it, and parted with certain features that were considered by its advocates, vulnerable; just as the outworks may be demolished for the greater security of the citadel. How far the elder Edwards himself is responsible for these modifications, and how far they are to be credited to his son, to Bellamy, to Hopkins, to Emmons or to Dwight, I will not here stop to inquire. When Dr. Taylor came upon the stage, the reigning theology in New England had discarded certain tenets of high Calvinism,—for example, the imputation of Adam's sin, and limited atonement. The aim had been to render Calvinism defensible theoretically, and to remove practical difficulties and objections on the side of the ordinary hearers of the Gospel, who sometimes claimed that the doctrines of original sin and the impotency of the will delivered them from responsibility and rendered it useless for them to attempt anything for their own salvation. The New Haven Divines pursued the same path, had the same practical ends before them, and, I think, deviated less from Dwight and their other predecessors, than they had differed from the system of the seventeenth century; less, too, than Doddridge and other so-called Calvinists in England had modified the previous theology. The New Haven theology resembled, in its general type and in some of its particular features, the theology of Baxter, which was always considered to be mid-way between High Calvinism and the system of Arminius and Episcopius. The New Haven divines were interested in solving for their own satisfaction problems that brought perplexity to many minds; but they were sincerely attached to what have generally been considered, and what they considered, to be the elements in Calvinism of religious value; and they were chiefly solicitous to put aside what constituted, according to their view, an obstacle to the successful preaching of the Gospel and blunted the edge of christian warnings and exhortations. This is not the place to review the controversy. No one ever doubted that Professors Taylor, Fitch and Goodrich maintained their cause with consummate ability. The influence of the controversy has affected the American church in almost all its branches. The prevalent tone of preaching has been altered in consequence of it. It gave rise to ecclesiastical disturbances beyond the bounds of New England, and the sound of it was heard throughout the land.

During all this whirlwind of controversy, when the "Christian Spectator" was filled with its reviews and rejoinders, and pamphlets on the one side and the other were eagerly caught up by curious readers, the seminary prospered. The more that young men in other colleges and schools of theology, were warned against Dr. Taylor, the more they flocked to his lecture-room, whether from the adventurous temper indigenous in youth, the appetite for forbidden fruit that has infected our race since the rise of horticulture, or, as we may charitably hope was the fact, from that generous curiosity and hospitable feeling towards new ideas, which are peculiar to youthful minds and are among the indispensable conditions of progress. But as Dr. Taylor, and his colleagues with him, grew old; as his health became weakened,—although he never lost his mental vigor and fire; when, also, the active opposition to him mostly ceased, and the public interest in the particular questions which had engrossed his attention and formed the topics of debate without and within the walls of the institution, diminished and the public mind was turned to other sides of theology, or to political and social questions of great moment, the attendance upon the seminary fell off. The funds for aiding students were small, and in various other facilities and advantages, the seminary compared unfavorably with other institutions of a similar character Dr. Taylor died in 1858, Dr. Goodrich, two years after, and Professor Gibbs in 1861. When Dr. Taylor died, the seminary was possessed of an endowment amounting only to about fifty thousand dollars, together with a building for the accommodation of students, which contained no lecture rooms, and was erected under a stipulation that it might be taken at its appraised value by the academical department, whenever that department should need it. No pains had been taken for many years to increase the revenues of the institution. The habit of idly waiting for Heaven to bestow gifts of grace, had passed away with the advent of Dr. Taylor's theology, but the habit of waiting for Heaven to bring gifts of money without positive effort to procure them, was more slowly eradicated. Professor Dwight had been chosen Assistant Professor of Sacred Literature in 1858, before the death of Professor Gibbs, and devoted himself to instruction in the New Testament. Although the youngest of the present corps of Professors, in the order of college graduation, he is our senior in the order of service in the Seminary, and was the link connecting the old faculty with the new. The interval that elapsed between his appointment and the erection of the new Divinity Hall was a period of labor, of renewed organization,—an interval of alternating hope and fear. It was impossible to appoint a successor to Dr. Taylor, because the income of the chair was so small. Professor (now President) Porter gave the lectures in systematic theology from 1858 to 1866. We remember with gratitude the

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friends that aided us in the early part of the interval which I have defined, when the prospects of the institution were sometimes dark and doubtful. At that time a gentleman of the highest character, whose name commanded respect throughout the state, actuated solely by his conviction of the importance of sustaining the School of Theology in Yale College, came forward with a gift of twenty-five thousand dollars; and this in addition to other large donations which he had previously made to the institution. At this time of returning prosperity, and on this commemorative occasion, it affords me great pleasure to acknowledge the debt of thankfulness that we owe to William A. Buckingham. In September, 1861, Professor Dwight was reinforced by the appointment of Professor Hoppin to the chair of Homiletics and Pastoral theology, and I was made Professor of Ecclesiastical History. Mr. Henry H. Hadley was elected Professor of Hebrew; but he held the place but one year, and his early death, in 1864, deprived the country of a scholar of rare ability and promise. For several years Professors Dwight, Hoppin and myself, with the valuble assistance of Mr. Van Name, in Hebrew, constituted the faculty. The number of students was not large, but they were generally good students whom it was agreeable to teach; and these were valuable years to the Professors from the opportunity that they gave us for study. In 1866, Professor Day accepted the Professorship of Hebrew and Biblical Theology. He brought to usthe benefit of his large experience as a theological instructor, and in addition to his work in his own department, he has contributed efficiently to the better organization of the Seminary and to the advancement of its general interests. The Reference Library, for example,a peculiar and useful feature in this institution, was first suggested by him. At this time, also, Dr. Bacon, who had relinquished his connection with the First church as their active Pastor, joined us as an instructor in the Seminary, and entered upon a new stadium in his long career of useful service to the cause of learning and religion. The First Church that had given us Dr. Taylor, gave us also his successor; not in his youth, indeed, but in the maturity of his powers, with his well-earned reputation, and with a vigor, cheerfulness and hopeful spirit which any young man might reasonably envy; with a helpful spirit, too, and with a willingness for every useful undertaking, to which his colleagues can all thankfully testify. The chair of doctrinal theology was not yet permanently filled; but by the singular favor of Providence we have been able to bring to it a gentleman, whom we had called to this post once before without success, and who more than satisfies every just expectation. The necessity for a new building that should contain lecture-rooms, as well as rooms for students, a building that should stand apart from the buildings of the undergraduate department, yet on a comely site and within a convenient distance of the College Library, was felt by the Professors of the new Faculty from the first. The call from the Academical Department for the old building, first that it might be occupied by the college students, and then later that it might be razed to the ground to make room for Durfee Hall, was an additional and pressing incentive to hasten forward the accomplishment of our project. Arrangements were made as early as 1866, to solicit subscriptions, but the Professors did not enter personally into the effort to any great extent, until some time afterwards. The undertaking was successful, and the corner stone of the new building was laid on the 2nd of September, 1869. It was finished and ready for occupancy in September of the following year. Since that time, by the munificence of Mr. Frederic Marquand, of Southport, Conn., we have been able to connect with it the beautiful chapel, which bears his name. Other donations have been made, from time to time, to the funds of the Seminary, the largest of which is the bequest of $50,000 from that most liberal benefactor of Yale College, Mr. Augustus R. Street.

It would be a shame if in some things we had not improved on the past. If we compare the Seminary with what it was twenty or thirty years ago, it is obvious that there is now far more Biblical and historical study. Indeed the study of church history was then omitted. The course is now much more symmetrical and complete. The intellectual activity of the students is not, as then, almost exclusively in the direction of dogmatic theology. Their thoughts and studies do not run in one groove. The aspects of theology that chiefly engage attention have changed. The question of the foundation of moral obligation, of the divine permission of sin, of natural and moral ability, are no longer the exciting topics of discussion. These old questions are important. The wheel will revolve, and they will again emerge into prominence. But now, in the seminary, as abroad in the world, the relation of religion to the discoveries and conjectures of natural and historical science, the miraculous life and person of Christ, and his work among men and for them, are the most attractive themes. I do not believe that there is less of religious consecration among the students than formerly was the case. There is an equal interest in missions foreign and domestic, equal sobriety in character and conduct, and an equal attachment to evangelical truth.

And here permit me to say, that although we, like our fathers, are Congregationalists, we are not sectarians. Yale College was founded by religious men for religious ends. It has been the first aim and prayer of the eminent men who in past times have held its offices of government and instruction, that the principles of the Gospel of Christ should be inculcated here and the spirit of a living faith in the verities of revealed religion should prevail among teachers and pupils. But there has not been, in modern times at least, anything that can justly be called a sectarian feeling. Such a feeling does not exist in the School of Theology. I can affirm with truth that a proselyting spirit is wholly foreign to the place. No instructor in Yale College, in any of its departments, not even in the Theological, ever thinks of trying to convert a Methodist into a Congregationalist, or an Episcopalian into a Congregationalist, or to alter the denominational relation of anybody. No attempt, direct or circuitous, is ever made for such an end. Sectarian, proselyting efforts would be felt by all to be wholly at war with the *genius loci*. We have a right to declare, then, that, considering the history of the college; who imparted to it the principles that have given it success, and the generous, truly Christian spirit in which it has been managed, its guardians would be unfaithful to the charge that has been transmitted to them, if they turned their backs on religion, or if, out of complaisance to a spurious and treacherous notion of catholicity, they were to allow a sectarian, proselyting tendency to gain a foothold within these ancient walls, where it would labor to subvert the true Christian liberality that has marked the administration of the college.

In casting the eye backward over the history of the college, we are struck with the wise and providential development of theological education in the successive periods. A college was established; but, as the education of ministers was the principal end in view, theological studies were incorporated in a larger measure than was requisite for the liberal education of laymen, so that candidates for the ministry might be furnished with a stock of professional knowledge to prepare them for their specific work. But the two ends in view were not wholly compatible; and the first new step was to push over theological studies, in part, into a post-graduate course, under the charge of the Professor of Divinity,—a course meagre when compared with the demands of the present day, but sufficient for that time. As the circle of liberal studies was enlarged, while the standard of ministerial training was proportionately advanced, the post graduate instruction in Theology grew into a distinct department, organized under a faculty of its own; a department separately managed and with a separate treasury. The Corporation, the successors of the original founders, considered that they were fulfilling their trust, if they offered to candidates for the ministry a course of liberal studies in the Academical Department of the college, while they connected with it, and took under their fostering care, a Department of Theology. The development of the university system at Yale has been a natural one, and not the result of much contrivance; but we have reason to congratulate ourselves upon the course which things have taken. In the University of Paris, which was the model and mother of universities, the Faculty of Theology arose in connection with, and by the side of the Faculty of Arts. There theology was finally concentrated in a college of its own, for the Theological Faculty was nearly identical with the Sorbonne. We can not, and ought not, in this country, to follow, in all points, the system of any of the continental universities. On the other hand, we have a great advantage at Yale, as regards the method and system of studies, over the English Universities, where the professional faculties never acquired a corporate being, and where theological science has declined and languished, because it has had no proper organization, but has been shut up for the most part within the colleges, and has therefore, in modern times, been reduced within a narrow compass. We rejoice that a School of Science has grown up at the side of the professional schools of Yale College. If there be in some quarters a fear and jealousy of the natural sciences, let me say that we do not partake of it. We rejoice in the progress of discovery and in the diffusion of knowledge; for we believe that the tendencies of knowledge, in the long run, are favorable to religion. We believe that there is an infinite power of inspiration and salvation in the Bible, which was put into it by the Divine author of the soul, and an infinite value in the religion of Christ, an absolute necessity for it, too, in human nature; so that we have no fear that any Astronomer with his eye glass, or any Geologist with his hoe and hammer, or any Anatomist with his microscope, will hurt Christianity in any vital part.

In reviewing the history of the College, which I had occasion to investigate a number of years ago, and in going back to the early days of New England, I have been impressed anew with the real worth and greatness of our ancestors. They had their faults like all other men; but their faults were mostly due to the fact that they were born in the sixteenth or seventeeth, instead of the nineteenth century,—a circumstance for which they can hardly be held responsible. They were stout-hearted men, with a strong and living faith, that imparted dignity and elevation to their character; men who believed that the soul is the one exalted and precious thing in man, and who therefore set education and religion above all the good things of life. The fathers of New England belonged to that race of men, who saved the religion of England from the Papacy and the liberty of England from regal Despotism; who braved the Tudors at the height of their power, and, at a later day, brought one faithless King of the House of Stuart to the block, and drove another from his throne. They were the men who, for the sake of truth that was dearer to them than home or life, left Old England, crossed the ocean, not then, as now, traversed by swiftly sailing vessels, but a pathless, untravelled waste, to make here a New England, and on these lonely shores,

—"rolled the psalm to wintry skies."

They were the men who, when they had to go out to till their fields with a weapon in one hand to keep off marauding savages, established out of their scanty substance a college, and laid the broad foundations of our educational system. We have no apologies to make for our ancestors; "*si quæris monumentum, circumspice.*"

I have been, also, impressed anew with the worth of the men who have conducted the affairs of Yale College, not in the distant past alone, but within a more recent period. There are facilities at present, there are some avenues of culture which may not have been open to them. But the generation that is now entering on the stage of action, it is sad to think, cannot know how admirable were the characters and attainments of some of those who have gone from us. How little do the stu-

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dents of to-day know of the late Professor Kingsley, a scholar and a critic who has had few to equal him in America; whose learning was so wide and accurate, and of whose keen wit more than one careless writer, literary charlatan, or defamer of the college, felt the sting! How little do they know of the late Professor Sililman, a man of so benignant character and gracious manners, whose scientific reputation attracted students to this place from every part of the country! How little can they know of the intellectual power of Doctors Taylor and Fitch, when these were prominent before the public,—of the powerful impression made by their sermons and of the charm of their conversation!

Yale college has been a great seat of theology from the beginning. The authors of what is known as New England divinity, Edwards, Bellamy, Hopkins, West, Smalley, Emmons, Dwight, to whom the name of Taylor must now be added, went forth from Yale. The younger President Edwards, the only one of the leading expounders of the New England Theology, who was educated elsewhere, was graduated at Princeton College, because his father had been made president of that institution. But the younger Edwards became a pastor in New Haven. The elder President lived to hold his office at Princeton only thirty-four days. He has a tranquil and honorable resting-place under the shadow of Nassau Hall, among those who revere his memory. Yet he was a New England man by birth and education, a son of Yale College; he studied theology here, was converted here, and taught here as a Tutor; and I am inclined to think that had he lived in these days of easy and swift conveyance, he would have given a commandment respecting his bones like that which Joseph gave to his brethren. The most of what is distinctive in American Theology may be traced to this body of men. The two persons who, regarded as theologians, have had, on the whole, the highest place in recent times in England, Chalmers and Andrew Fuller, acknowledge that they were taught their science by President Edwards. I have already adverted to the currency which the system of Dwight has had in Great Britain. It has been extensively read and followed both in the established church and among the dissenting bodies. I must not omit to remind you that not a few of the ministers who were educated here became themselves the founders of colleges, or leading officers in them, in various states of the Union. Eleazar Wheelock, a gradnate of the class of 1733, having conducted for many years a school for Indians at Lebanon, made his way into the forests of New Hampshire, and in 1770 founded Dartmouth College. Williams college was organized under the auspices of Ebenezer Fitch, its first President, who graduated at Yale in 1777. Not Dartmouth and Williams only, but many other colleges, in the South and West, bear alike filial relation to Yale and to its clerical alumni.

The Yale School of Theology discharges a two-fold office; it stands in a double relation. It is first a part of the University. Even disbelievers in revealed religion might concede that since Christianity fills so vast a space in history, in literature and in the structure of society, the interpretation of its primitive documents, and the study of its origin, progress and character, deserve a place in a University system. But Christianity is a historical, authoritatively revealed religion, which holds an intimate relation to the intuitions of the human mind, to ethical motives and obligations, to the whole fabric of political and social life. On this ground, theology is a science, and has a place of honor, not by allowance, but by right, in the circle of studies. The School of Theology, secondly, has a relation to the churches. Its function is to educate ministers who shall be competent to teach the Gospel to the people, and to guide the flock of Christ. This work is the direct, the noblest and most useful, office which the School of Theology undertakes to fulfill.

That ministers can best be prepared for their work in seminaries of this character will be doubted by few if any. The old method of living for a while in the family of a minister, may have had some advantages of its own; but even these are got in part through the experience in sabbath schools and mission work, which most theological students now gain, while prosecuting their studies. In truth, Bellamy, Burton, Emmons and other theological teachers of the former time, conducted schools of theology; only they were very imperfectly equipped and organized. There was only one man to teach; he taught hardly anything but dogmatic theology, and endevored to stamp upon the mind of his pupil his own system. The method now in vogue is, in reality, that which has generally prevailed ever since the rise of universities. If there is to be a learned ministry, the existing method, in its main features, is indispensable. There is a vague, but false, impression among some, that schools of learning are unfavorable to earnestness in religion. A glance at history will show that this impression is not correct. Ignorance is the mother of superstition, but not of devotion, in the better sense. The universities of Europe, in the 13th century, were fountains of intellectual and spiritual life. They marked a transition from darker ages to a period of comparative light. In the fourteenth century, it was a Professor of Theology at Oxford, John Wickliffe, who taught a pure Gospel, rendered the Bible into English, and was the morning-star of the Reformation. In the 15th century, it was a Professor of Theology at Prague, John Huss, who followed Wickliffe in rebuking the corruption of the Church, and laid down his life for the truth. In the 16th century, it was a Professor of Theology at Wittenberg, Martin Luther, who began the great movement that resulted in the restoration of primitive Christianity, after an eclipse of more than a thousand years. I might add that it was Ignatius Loyola and two associates, in a room of the College of St. Barbara at Paris, who laid the foundations of the Jesuit order, which made itself felt throughout the world. In the 18th century, it was a band of students at Oxford, Wesley and his companions, who set on foot a reformation, which for the English-speaking part of the world, was only second in importance to that commenced by Luther. In the present century, it was a handful of students at Williams College, stopping to pray together by the side of a haystack, that gave rise to one of the noblest and most conspicuous achievements of American Christianity, the Missions of the American Board. But there is no need of vindicating the method of theological education which is now so generally sanctioned and which lies at the foundation of the Divinity School of Yale College.

The practical question for the friends of the Seminary is, whether the work of providing it with a sufficient endowment shall be left half-done. This work has been auspiciously begun, but is only half accomplished. There is room to-day for congratulation; there is a call for thanksgiving; the omens are favorable. But if we stop where we are, we shall fall far short of our duty and of our opportunity. If the tide is not taken at its flood, there is no other prospect but that of being bound in shallows and in miseries. We need the means of aiding poor students who love the Gospel and wish to learn to preach it. The chairs of instruction are only half endowed; and should they become vacant, it would be exceedingly difficult, on this account, to fill them. And there is an immediate want, of so pressing a nature, that unless it can be supplied, the Seminary will be debarred from any further growth. Our present building is full to overflowing. We require at once another building "like unto it," to contain study-rooms and bed-rooms for students. The lecture-rooms, the chapel, the libraries, the corps of professors, in a word, the whole apparatus of instruction, is sufficient for twice or thrice the number of pupils that we now have, if only lodgings can be provided for them. The large investment already made, will furnish a double yield, in case this want can be speedily met. If it is not met, the institution will be cramped and crippled; its growth will be stopped; and not to grow is probably to decline.

While we gratefully commemorate the services to religion, in connection with this institution, which were rendered by Dwight, Father and Son, by Taylor, Goodrich and others of a preceding generation, let not the graduates of the Seminary and the laymen in our churches be behind them in a willingness to give their exertions and their means to the same good cause. Why not signalize the beginning of the administration of President Porter, himself an honored alumnus of this School, by the erection of this edifice which we imperatively require, and by the consecration of it to Christ and to the benefit of His Church? Let this epoch be not only an occasion for a review of the past, but a starting-point for a new era of even higher achievement in the half-century to come!

University at Lawrence, (Kansas.)—The new university building, at Lawrence, Kansas, is pronounced by good judges, to be the finest building for educational purposes in the west. It is a massive structure embodying the latest improvements of science and art. It has already cost the city of Lawrence $100,000, and the Legislature has voted $50,000 more to complete it. It stands on the summit of Mount Oread commanding a perfect view of the city, and of the fruitful valleys of the Kansas River and Wakarusa, for miles in every direction. Gen. Fraser, President of this University, has done a noble work in planning and carrying forward this building amidst many difficulties so nearly to completion; and in establishing with his faithful coadjutors, a university at Lawrence, which is an honor to the State. *

Northwestern University (Evanston, Ill.)—The President of the Northwestern University, Dr. Haven, is a member of the General Conference of the M. E. Church now meeting in Brooklyn, N. Y. On account of his absence the catalogue of the University will not appear this year till after commencement. It will then be changed in form and in name. It will then be called "The Annual Register of the Northwestern University," and will contain not only the usual matter but some descriptive and historical information concerning each of the colleges of which the University is composed. Each college, as heretofore, will issue its own circular. The Theological school has never yet been registered with the others but will be this year. The number of students registered will be approximately, 600.

All departments of the University are making progress. The Theological school had its source of income cut off by the fire, but through donations from its friends it will soon be in as good condition as before.

The University Corporation lost very little except through losses of its friends from whom it had good reason to expect aid.

The Medical College is making large collections in comparative osteology and probably has already the best collection in that line possessed by any Medical school in the country. The museum is particularly rich in skeletons of the quadrumana. The museum of the University has lately mounted a magnificent skeleton of a wild elephant killed at the base of the Himalayas. A skeleton of a buffalo from Larimie plains has been placed in the same stall.

One item of improvement is noted in the fact, that the Sophomores, Scientifics and Engineers are working at Microscopy as a regular study. Six instruments are in use. Four Tolle's Student Microscopes have recently been procured and they are much liked.

Evanston is rapidly growing. It already surpasses any other suburb of Chicago. The October fire sent many people of means into Evanston who will become permanent residents. This benefits the University in as much as it has increased the value of real estate and the demand for leases. The institution has been holding considerable unproductive property which is now being made productive. M.

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SCIENTIFIC.

The Antiquity of Man.—An important discovery bearing on the antiquity of man has just occurred in England, Mr. Edward Charlesworth, F. G. S., having discovered in the Suflolk crag, or old Pliocene beds, in the very heart of the tertiary era, and long before the close of the glacial in the post-tertiary, teeth of the extinct shark, *(Carcharodon,)* apparently perforated by human agency, as well as many concretionary nodules with longitudinal perforations unlike those produced by the action of boring mollusca. The specimens were to be exhibited and described at the meeting of the Anthropological Institute on the 8th of April. If this discovery be verified, it will carry back the existence of man in England to a period coeval with the Mastodon arvanensis, and far more ancient than the "mammoth age."

On the Influence of the so-called Poisonous Shadows.—In a paper with the above title, H. Karstens states that during a long residence in tropical America he became well acquainted with the euphorbiaceous tree *Hippomane manzanilla L.*, and with the fact that the natives considered it so poisonous as to avoid going near it, asserting that merely resting under its thick shade will produce serious sickness, and in very susceptible persons even death. This poisonous power having been denied by various naturalists, especially Jacquin, our author gathered some of the juice, on the sea-coast of Venezuela, near La Guayra. In a short time he was seized with a burning feeling all over his body, by swelling, especially about the face and eyes. The next morning he was unable to open the latter, and their irritation was so great as to force him to pass several days of great pain in a dark room. On the third day the swelling began to go down and the epidermis to desquamate. The hippomane has then a juice which in a dry atmosphere evaporates from the moist bark and acts as an irritant poison to the skin and mucous membrane. The reason Jacquin remained a number of hours in close proximity to a tree without injury, was a prevailing thunder-gust, the torrents of water washing out, as it were, the volatile principle from the air. Herr Karstens thinks the organic base, trimethylamine, is an analogue of the poisonous principle, and that the latter is probably nitrogenous, a substitution product of ammonia.—*Vierteljahrschrift fur prakt. Pharmacie.*

Earthy Matters in Paper.—The *Boston Journal of Chemistry* gives the results of an analysis by its editor, of the various papers upon which many of its exchanges are printed, with a view to determine the quantity of earthy matter added to increase their weight. The paper was dried at 100°C., a known quantity of it burned and the earthy matter weighed as ash. The percentages of ash thus found are as follows:

Scientific American,	14.50
Artisan, Athens, Ga.,	10.62
Independent, New York,	8.71
Nation, "	6.21
Tribune, "	3.23
Herald, "	3 06
Post, Boston,	4.50
Advertiser, "	2.69
Herald "	.98
Journal of Chemistry,	.46
Science Gossip, London,	21.59
Chemical News, London,	17.38
Academy	17.26
Land and Water	17.25
English Mechanic,	15.32

This ash consisted essentially of a white clay called *terra alba.* So that, estimating that the weekly edition of the *Scientific American* weighs 3,000 lbs, their paper maker sends them more than eleven tons of clay annually; and *Science Gossip* in London sends out a ton of clay for every five of paper issued from its office. As the clay costs scarcely a cent a pound, while paper is worth ten cents, a large margin of profit is realized. Whether this addition is fraudulent or not, depends upon the quality of the resulting paper and the price paid for it; of course in the absence of a direct agreement for unweighted paper.

Action of Caustic Alkalies on Brown Coal.—When cellulose and the caustic alkalies are fused together, it is well known that oxalic acid is formed. Millon has shown that by the action of caustic potash or soda on wood-coal a humus substance is produced. In order to investigate more closely the action of the alkalies on brown coal, Messrs. Schinnerer & Morawski, of Vienna, instituted the following experiment:

A large quantity (200 grms.) of Traunthaler coal and 600 grms. caustic soda were fused together until no more hydrogen was given off. The fused brownish mass was saturated with dilute sulphuric acid, and when cool, filtered, shaken with ether and the ether distilled. A brown mass was left behind in the retort, which could only be crystallized by a very circuitous method. A shorter and more direct method was sought for and found in distilling the brown mass. By this operation a white crystalline sublimate and a yellow oil were obtained. The crystalline sublimate was tested for its reactions, and yielded, with ferric chloride and soda solution, the characteristic reaction of pyrocatechin.

The original brown mass gave also distinctly the reaction of pyrocatechin, which is a sure proof that it was already present as such in the fused mass and was not formed by the distillation.

In order to ascertain from which portion of the brown coal the pyrocatechin was formed, the coal was extracted with ether, and the insoluble portion, treated with caustic soda as above, gave no reaction for pyrocatechin. This substance must, then, be formed from the soluble, bituminous portion; and this, too, was proved by direct experiment. A series of coals was then treated in the same way, and only in the newer formations, where the woody structure was still plainly visible, was any formation of pyrocatechin visible. This reaction does not, of course, take place with hard coal.—*Jour. Applied Chemistry.*

Skeleton Leaves.—Mr. J. F. Robinson describes in *Hardwick's Science Gossip* a simple method of preparing skeleton leaves, which seems preferable to the old and tedious method of maceration, and which he recommends to all young botanists, especially to his fair friends, who take up the science of botany more as an intelligent amusement than for severe study. First dissolve four ounces of common washing soda in a quart of boiling water, then add two ounces of slacked quicklime, and boil for about fifteen minutes. Allow the solution to cool; afterwards pour off all the clear liquor into a clean saucepan. When this liquor is at its boiling heat place the leaves carefully in the pan, and boil the whole together for an hour, adding from time to time enough water to make up for the loss by evaporation. The epidermis and parenchyma of some leaves will more readily separate than others. A good test is to try the leaves after they have been gently boiling for an hour, and if the cellular matter does not easily rub off betwixt the finger and thumb beneath cold water, boil them again for a short time. When the fleshy matter is found to be sufficiently softened, rub them separately but very gently beneath cold water until the perfect skeleton is exposed. The skeletons, at first, are of a dirty white color; to make them of a pure white, and therefore more beautiful, all that is necessary is to bleach them in a weak solution of chloride of lime—a large teaspoonful of chloride of lime to a quart of water; if a few drops of vinegar is added to the solution, it is all the better, for then the free chlorine is liberated. Do not allow them to remain too long in the bleaching liquor, or they become too brittle, and cannot afterwards be handled without injury. About 15 minutes will be sufficient to make them white and clean-looking. Dry the specimens in white blotting-paper, beneath a gentle pressure. Simple leaves are the best for young beginners to experiment upon; the vine, poplar, beech, and ivy leaves make excellent skeletons. Care must be exercised in the selection of leaves, as well as the period of the year and the state of the atmosphere when the specimens are collected; otherwise, failure will be the result. The best months to gather the specimens are July and August. Never collect specimens in damp weather, and none but perfectly matured leaves ought to be selected.

On the Position of the Center of Gravity in Insects.—Mr. Felix Plateau has recently concluded a long and elaborate series of experiments to determine the position which the center of gravity occupies in insects, the results of which are published in the scientific part of the *Bibliotheque Universelle.* Since in all moving animals, progression and the maintenance of equilibrium, are the two distinct objects of muscular action, and since the study of the conditions of equilibrium is only possible when the position of the center of gravity is known, it is clear that the determination of this position is of great physiological importance. With the exception of man, however, little attention has been paid to the center of gravity of any class of the animal kingdom. The apparatus employed by Plateau was an ingeniously modified form of that devised by Borelli, in 1743. The results of the research are thus summed up by the author:—

(1.) The center of gravity of an insect is situated in the median vertical plane which passes through the longitudinal axis of the body.

(2.) The center of gravity occupies an almost identical position in insects of the same species and of the same sex in the same attitude.

(3.) It is rare that the exterior form of the body permits the determination, without experiment, of the relative position of the center of gravity.

(4.) *Sexes.* The center of gravity does not occupy the same position in the two sexes of the same species; it is, in the female, sometimes anterior to and sometimes posterior to, the position it occupies in the male, depending upon the relations which exist between the varying dimensions of the individuals concerned.

(5.) *Metamorphoses.* At the time of the metamorphosis of the larva into the perfect insect, the relative center of gravity approaches the head, while the absolute center of gravity moves away from it.

(6.) *Rest.* During rest, the center of gravity is found either at the base of the abdomen or in the posterior part of the thorax; it is ordinarily in the middle of the length of the body.

(7.) *Walking.* During the walk of an insect, its center of gravity moves constantly round a mean position, but the amount of this motion is too small to be measurable.

(8.) *Flight.* With insects whose wings while at rest, are placed either in the situation which they have during flight, or in a vertical plane, so that their motion is limited to right or left, no displacement, or almost none, of the center of gravity, can be detected when these animals pass from the state of rest to that of flight.

(9.) With insects whose wings in a state of rest lie flat or are crossed upon or along the back, the change of the position of these wings in passing to the active state, or that of flight, causes always a displacement of the center of gravity which is horizontal and from behind forward.

(10.) During active flight, the center of gravity oscillates continually around a mean position which corresponds to the instant when the extremities of the wings cross the intersection of the figure-of-eight curve which they describe in the air.

(11.) *Swimming.* Among aquatic insects, the center of gravity is nearer the anterior than the posterior surface of the body.

(12.) The movements of the posterior feet, which resemble that of oars, determine certain oscillations of the center of gravity around a mean position corresponding to the situation of the swimming feet when placed in the middle of their course. These oscillations of the center of gravity cause a continual balancing of the body about a transverse axis passing through the mean center of gravity, and oblige it, consequently, to describe a slightly undulating path.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, MAY 25, 1872.

NEXT Tuesday, Wednesday and Thursday the National Baptist Educational Convention meets in Philadelphia. The topics for discussion and the men who are to give their opinions on them both conspire to render the occasion one of unusual interest. The subjects which are to receive attention, printed in the *Courant* of March 9th, are many of them closely connected with the higher education and much valuable information must be communicated.

We give a large portion of our space this week to the able and eloquent historical address of Professor George P. Fisher, D.D., delivered at the recent celebration of the fiftieth anniversary of the existence of the Theological School as a separate department of Yale. We intended at first to divide this address and present it in two issues but knowing that the continuation of such an article over two or three weeks causes a loss of interest, we finally concluded to enlarge a trifle and give it all at once. We trust that the greater interest which will attend the completeness of the subject presented will compensate for lack of variety. The article on the collections of the Stevens Institute of Technology, which we promised for this issue is necessarily laid over until next week.

THE Law School of the Boston University is to be opened for the first time as a distinct department on October 2nd. The faculty which we have given once before and which now appears in our advertising columns, would seem to be a satisfactory guarantee of successful teaching. Boston has some peculiar advantages for studying law. In addition to the annual session of the legislature there, the national, state, and municipal Courts, are in almost constant session and thus offer fine opportunities for practical study. Moreover the Law Library, and State Library together with the Boston Public Library, are all available to students, the latter being free. We are pleased to know that the instruction will be given in a manner which will be a guarantee for thoroughness, viz., by recitations and examinations as well as by lectures, moot courts, and exercises in drafting various legal papers. The tuition of the new school is $50 per annum.

THE election of United States Senator in Connecticut which recently took place in New Haven, and resulted in the choice of Hon. O. S. Ferry, has been the occasion of some very senseless imputations upon Yale College. The immediate occasion of these remarks was the fact that in connection with others, ex-President Woolsey and Rev. Dr. Bacon signed a paper to the legislature which contained a general protest against the caucus system. This paper was printed in an article whose evident design was to aid the election of Senator Ferry. And since the election, the disappointed friends of General Hawley, the unsuccessful candidate, have been attempting to throw odium upon Yale for what they claim to have been her connection with the affair. Now there are one or two things connected with these imputations which seem to deserve a moment's notice. In the first place it is hard to see how the offence, if offence there be, can, by any principle of fairness, be attributed to the college. No professor in Yale had anything to do with the paper which proved so obnoxious to the friends of General Hawley, and even if half a dozen of them had signed it we cannot see how it could even then, with any justice be called a Yale affair. In order that the college should be held responsible for the action, it is necessary to show that the college itself was interested in the matter, and that the members of the several faculties had agreed to act together for the purpose of carrying a point which they considered to be for the good of the institution. But there is not the slightest shadow of proof that such was the case. Indeed we know that the faculty were divided in opinion upon the merits of the question at issue. Moreover the document which caused the trouble was signed by Ex-President Woolsey and Dr. Bacon, not as members of the college, but as citizens. And no one will pretend to claim that these two eminent men have no right to cherish opinions upon political matters, and to enforce them if they choose, just the same as any other citizens. And however wise or foolish this action may have been, it strikes us as something ludicrious that the college should be held responsible for it. It would be just a sensible to attempt to throw odium upon a business firm, because one or more members of it happened to be of the opposite political faith from a disappointed candidate. It is time, it seems to us, that such proscription for political action should cease.

THE exploration of modern Palestine is an object which seems worthy of the care and attention, not only of those who are interested in Christianity, but also of Jews, Masons, travelers, antiquarians, explorers, geographers and scientific men. Indeed the subject has a wide and general interest. Something has already been done in this field, but much still remains to be done, In 1838, Dr. Edward Robinson, and Dr. Eli Smith made valuable contributions to Bible Archæology and Geography by their labors in Palestine. Ten years later Lieut. Lynch with the United States Exploring Expedition made the first really satisfactory exploration of the Dead Sea. Since 1862 explorations conducted under the auspices of the English Palestine Exploration Society have continually added to our knowledge of the region. And with a view of pushing forward the work, a society has recently been formed in this country independent of the English society. Prof. Roswell D. Hitchcock, D. D., is president of this organization and among its members are many of the divines, scientific men and laymen of the country. This society proposes to devote its attention to the country east of the Jordan, including the old countries of Edom, Moab, Gilead, and Bashan. The society have issued a circular defining the object of the expedition as follows: "Into this Trans-Jordanic territory it is proposed to send an exploring party of scientific men, thoroughly equipped for the service expected of them. Their attention will be given to the meteorology, topography, archæology, geology, zoology, and botany of the region; and in due time we may look for a report which will be a real contribution to the sum of human knowledge."

To assist in attaining the ends thus set forth the society desire contributions. A subscription of ten dollars entitles its donor to the publications of the society. Contributions may be sent to James Stokes, Jr., 104 John street, New York, and any further information may be obtained by addressing Rev. James H. Dwight General Agent, 26. Exchange Place, Room 14, New York. The character of the officers and membrs are a perfect guarantee of the good faith of the undertaking, and the appeal of the society should meet with warm synipathy and a generous response.

CO-EDUCATION ONCE MORE.

Perhaps there are few questions connected with the better education of women, that have, within the past few year, excited more discussion in conversation, or upon which more has been written than whether the higher education of females should be conducted in the company of the other sex. There have been on the side of those opposed by the innovation, plenty of theorizing, plenty of holding up of hands in holy horror at the thought, and plenty of prophesying of the dire results that would follow any such action. The mental capacity of the weaker sex has been severely criticised and unsparingly condemned, the unfitness of the female mind to pursue the same studies as their brothers, and the different spheres which the sexes must occupy, have all been brought forward with more or less ability and skill to show that women should be debared the enjoyment of the same privileges in acquiring education as men, or at least, that they should not obtain mental discipline in company with men. Now it seems to us that any one who has followed the discussion must have been struck with this thought in reference to the arguments of those opposed to co-education, viz., that they are almost entirely *a priori*. They have, in nearly every case, been drawn from a consideration of the conditions of the problem, as those conditions have been brought up by the imagination and then a conclusion drawn as to what would probably result. They have been almost entirely theoretical. The reasoning has been: knowing the disposition of the sexes, considering the age at which they are brought together, and the peculiar dangers which attend the mingling of the sexes at this age, and considering likewise the lack of safeguards which must unavoidably attend the mingling of sexes in large institutions of learning, where the care of the parent is lacking, and from the nature of the case the teacher cannot supply the place of the parent, in view of these things men, have perhaps naturally drawn the conclusion that it would be unwise, impolitic and even dangerous to educate the sexes in company, and so with nearly every other phase of the question. The circumstances of the case being taken into account the opponents of the movement have decided that the conclusions which seem natural to them, or which it seems to them must necessarily follow, from their survey of the antecedent conditions, are true and unimpeachable, and therefore their opposition to the movement is well founded. In short it seems to us that the striking peculiarity of the reasoning against co education is, that is not founded on an actual observation of an experiment which happened to be in progress, or was made to put the matter to test.

On the other hand, however, it must be confessed that the advocates of coeducation have not entirely despised *a priori* methods of reasoning. They have met probable reasoning with probable reasoning, and have not failed even to bring forward arguments obtained from a survey of the conditions of the case, in the same manner as their opponents. But, notwithstanding this, we think it cannot be denied that the advocates of co-education have more frequently than those opposed to it, employed the *a posteriori* method of reasoning. Those who will look over what has been written in favor of co-education of the sexes, will find that many of the articles embody the results of actual experiments in the instruction of both sexes in the same insttution. The articles by Prof. O. F. Lumry, of Wheaton College, on "Co-Education of the Sexes," recently printed in the COURANT, and the recent report of Prest. White, of Cornell, upon the same subject are cases in point.

Now, we have no objection to *a priori* reasoning, and would not attempt to call in question its value. In many cases it is all the instrument we have to aid us in the search for truth. Before the experiment can be made it is a most valuable auxiliary to help us in prognosticating the result. And if all the antecedent conditions of any case could be accurately known, their true value given to each, and correct conclusions drawn from them in combination, such reasoning would be almost infallible. And even with our present limitations in these respects, if we bear in mind that the conclusions that we reach *are probable conclusions*, and that therefore they should not too strongly bias our judgment and render us unwilling to receive the conclusions which follow from

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experiment, we can see no reason why *a priori* methods should not be freely used. But we would never use them where it is possible to employ *a posteriori* methods, nor would we ever accept the conclusions of the former method where they clash with those of the latter. An experiment fairly conducted and the conclusions fairly drawn is worth volumes of theorizing.

Looking at the question of co education in view of these considerations, it seems a little singular that so little that has been written on the subject, has been drawn from the experience of those institutions where co-education of the sexes is practiced. The most vigorous discussion of the subject has taken place during the past five or six years, but the sexes have been educated, together in some of the western institutions of higher grade for fifteen, and in one instance at least for more than thirty years. And all this time the problem of co-education has been receiving a practical solution in these institutions. But until quite recently it seems never to have occurred to any one except perhaps those who were brought in contact with it by their position to study it in the only place where a solution could be reached which would be even approximately satisfactory. Recently, however, President White of Cornell has made a tour of observation, and still more recently a committee of the Harvard Board of Overseers has been appointed to examine and report upon the subject from actual observation of its workings. This action, whatever may be the result of this last inquiry, we consider extremely encouraging. It indicates a desire to arrive at the truth in a plain and candid way, and as it seems to us in the only satisfactory manner possible. The action of President White in making the investigation which he has completed, is an indication of a spirit which reflects, great credit upon himself and the institution he represented in his inquiries; and although we may not be as fully satisfied, as, by her subsequent action in admitting women, Cornell has shown herself to be, we cannot but admire, the careful steps of preparation for, not to say the boldness, of the act. And the action of the Harvard Board of Overseers seems in every way admirable. It seems plain from their action that Harvard means to keep abreast of the age in every problem relating to education, and whether she decide in favor of the innovation or not, to give new theories a fair trial, and condemn them, if they are condemned, only after a fair examination.

In reference to the action of this committee it is said that it was appointed only as a compliment to one of the members of the Board of Overseers, and that it is probable that there will be a minority and a majority report upon the subject. It is also affirmed that there is no probability that, whatever be the report, Harvard will admit women to study on the same terms as men. But these points can only be told with certainty after the action has been taken. And meanwhile, it seems to us that this committee have it in their power to render very valuable aid toward solving the problem. Standing in the position that they do and wielding the influence that they do, their utterances will have great weight. And we can but hope that they will so cast their utterances that they will be of general service to all who are interested in the question.

For example, we pray this committee to tell us whether in the abstract there is real danger to the morality of the sexes if they acquire their higher education in company, or whether the presence of the opposite sex tends to distract either from study. And let them give us general answers to these questions, as far as possible independent of any peculiar institution or any peculiar set of circumstances. It, of course is impossible to decide any point in the discussion wholly independent of special cases, but as far as possible we hope for such conclusions.

To illustrate still further, we can conceive that it may be possible that it would be unwise for Harvard to attempt the co education of the sexes because she has no room for the accommodation of both, but if this be so we pray the committee to tell us so. In short what we would like is that the committee should give us a fair candid statement of the case founded on careful observation, and that such conclusions as can be stated without reference to Harvard should be so given, while those which are modified by the condition of things at that institution, should be so presented that it may be known what are the modifying influences. The question it seems to us is worthy of the consideration that is asked for it. Whatever conclusions the committee may arrive at, we shall look with no small degree of interest to their work.

LITERARY.

Periodicals.—With the present number of *Nature* (No. 131) a new volume—Volume VI—commences. The high scientific character with which this excellent English Journal began its career, has been fully maintained up to the present. And now, under the able editorship of Mr. Lockyer, it presents itself as an indispensable periodical for our American men of science. Macmillan & Co., have a branch house in New York, (38 Bleecker St.,) and through them it can be obtained as readily as any American periodical. It is issued weekly, has the best scientific minds of England for its contributors and deserves a larger circulation in the United States than it has yet attained.

The *Popular Science Monthly* for June contains an excellent series of articles mostly selected from foreign periodicals. In the leading article, taken from the *London Journal of Psychological Medicine*, "On the Artificial production of Stupidity in Schools," the author maintains that stupidity is due more to defective education than to inherited dulness; and he believes the remedy lies in "intelligent and intelligible teaching." Professor Youmans, the editor, contributes an illustrated article on "Sun spots," drawn largely from Secchi's interesting book Herbert Spencer continues his papers on "The Study of Sociology," and writes on the question "Is there a Social Science." Following this and taken from *Macmillan's Magazine* is the remarkable lecture of Liebreich, the eminent opthalmologist, on the "Effects of Faulty Vision in Painting," originally delivered at the Royal Institution, in which two of the most eminent English painters Turner and Mulready, are proved to have had serious defects of vision which produced in the one case errors of form and in the other errors of color, in their paintings. The most remarkable article in the number is that entitled "Darwinism and Divinity," by L. S., taken from *Fraser's Magazine*, which it carried through a second edition. Tyndall gives a chapter on the "Action of Dark Radiations," from his book on "Forms of Water," soon to appear as the first volume of the International Scientific Series. Quatrefages' lectures are continued, the second one being on the "Antiquity of Man." "Scrutable Providences" is from the *Christian Union*. Richardson's able paper on "The Physiological Position of Alcohol," from the *Popular Science Review*, will surprise many at the strength of the physiological argument for temperance. Articles on "Vesuvius" and on "Sir Chas. Lyell" (Illustrated), together with the usual Literary notices, Scientific Miscellany and General Notes, complete the number.

The American Church Review, the standard quarterly of the Episcopal church in America, presents in its April number just issued by M. H. Mallory & Co., Hartford, Conn., a varied and interesting table of contents. "The Council and the State," is founded on the last Eccumenical Council of the Romish church and is a review of the doings of that body. In the second article by the Rev E. A. Washburn, D. D., a very interesting sketch of "The Ober-Ammergau Passion-Play" is given, after which the author gives some very interesting references to similar representations in the English language, the old Mysteries and Miracle plays of the twelfth century. "Unitarianism in New England" is an article of a dozen pages founded on "The Life and Letters of Catharine M. Sedgwick." There are also articles on "St. Mark and his Critics;" Physical Cause of the Death of our Lord," an article founded on Stuart's traatise on the same subject; "Ary Scheffer," "Christianity and the Old Testament;" Ancient Icelandic Literature;" "Man in Darwinism and Christianity" in which the position of man in the two systems is stated much to the detriment of Darwinism; "Our Romanized Brethren," and a long and an appreciative notice of the late Bishop Chace, the first Bishop of New Hampshire.

The Week in its new form is a handsome twenty-four page weekly, about two thirds as wide as the COURANT and not quite as long. As is well known the plan of *The Week* is to present the best current thought of the press both of England and America, upon subjects of the greatest interest. Its aim is to supply, in a measure, at least, the want which everyone has felt in wanting to know what is said in "all the papers." The object is a good one and it would seem that with good management such a publication might be made almost indispensable.

Annual Record of Science and Industry for 1871.*—The great service which the efficient Assistant Secretary of the Smithsonian Institution, Professor Spencer F. Baird, is rendering to popular science as the Scientific Edboth of *Harper's Magazine* and *Harper's Weekly*, is too well known and too fully appreciated both in this country and in Europe to need any protracted mention at our hands. Aided by able assistants, by the wealth of scientific periodicals to be found in the Smithsonian Library, and by the eminent position which he himself holds among Naturalists, Professor Baird supplies to the periodicals above named all that is newest and freshest in the science of the day. The present volume contains the results of these labors for 1871, systematized, classified, and well indexed. With a care worthy of all praise, every item of importance has the authority for it quoted. The volume closes with the necrology of the year and with an index to the references. This index shows that 21 English, 8 French. 27 German and Austrian, 6 American, and one Dutch Journal have been laid under contribution. The range of subjects is very wide and the book, taken as a whole, furnishes, by far the best record of the Scientific and Industrial Progress made in the year 1871, to be found in the English language. It is well printed and attractively bound in cloth.

* *Annual Record of Science and Industry for* 1871. Edited by Spencer F. Baird, with the assistance of Eminent Men of Science, 8 vo., pp. xxxii, 616. New York, 1872. Harper & Brothers. Received through Judd & White, New Haven.

Spectrum Analysis Explained.*—This brochure—the third of the Half-Hour Recreations in Popular Science—is mainly made up of selected passages, and sometimes whole sections, taken from the English translation of Dr. Schellen's admirable work. These selections are somewhat irregular, as is seen by the following paging of the quotations as they appear in Schellen: preface, pp. 3, 85, 30, 39, 96, 53, 177, 203, 227, 109. Though Huggins's name is given with Schellen's on thetitle-page, the only portions for which he is responsible, are three small foot-notes. Roscoe, whose name appears with his, has been taxed even less; only five lines—and these modified—together with a cut, have been taken from his book, so far as we can ascertain. About five pages appear to be originally contributed; by whom we are not informed, unless by the editor, Mr. Dana Estes. They show an apparent want of familiarity with the subject; as for example, where it is said, p. 63, "In the Bunsen burner, the combustion of coal gas ensues slowly and incompletely; slowly, because, the hydrogen in combination with carbon is supplied only in small quantities; incompletely, because the gases are not mixed in due proportions, and the nitrogen of the

* *Spectrum Analysis Explained.* Illustrating its uses to Science, and including the Theory of Sound, Light, Heat and Color. By Profs. Schellen, Roscoe, and Huggins. 12mo, pp. 40. Boston, 1872: Lee & Shepard. Received through Judd & White, New Haven.

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air presents a hindrance." The wood cut, Fig. IV,, the spectrum of iron, is Schellen's Fig. 91, inserted evidently by mistake for Fig. 85, Fraunhofer's spectrum, which the text (p. 90) asserts it to be. Moreover, even in this cut, the dark lines are not lettered, as they are in the original. The colored lithograph of spectra placed as a frontispiece, is faulty in the position of its colors, the line D being in the orange and E and *b* in the yellow. The continuous spectrum given with that of potassium is by far too bright also.

We regret to see that in this series, which promised so well at the start, fragmentary and disconnected views of scientific subjects are to be admitted. Their treatment must necessarily be brief, but it should be full and complete in itself, and not made up of selections taken almost at random.

How the World was Peopled.*—The ostensible object of this book is to show how the world was peopled, and the argument is designed to prove that the whole human race, or races, had a common origin. The author says in his preface, "By a diligent and reverent study of theology, and careful researches in archæology, ancient and modern history, and every department of natural science, I was convinced that they all descended from one original pair of parents." With this declaration, to prevent any misconception on the part of the reader, the writer proceeds to argue in support of the Bible theory, and against all others, whatever they may seek to establish. In the preface he alludes to the theory of Mr. Darwin and the lectures of Prof. Huxley in support of it, but says he has found nothing in them, pertinent to the subject of the origin of mankind, which he has not answered in discussing the stronger objections to the doctrine of the unity of the races advanced by Sir Roderick I. Murchison and Prof. Agassiz. Indeed, the work may be regarded in some measure, as an answer to the theories and writings on this subject of these two distinguished naturalists. He claims that the principal cause of the change into types is what naturalists term *habitat—the locality* in which men live. Its climate, soil, and productions, and their food, occupations, and habits, he argues, mould them into their peculiar forms and aspects, and make them, in the lapse of ages, different from other nations from whom they have been long separated. He claims that in their several isolated conditions they become separate races.

The exact question which he proposes to discuss is, whether their anatomical differences and diversities in their intellectual and moral grades justify the opinion that individuals of the seven, five or three types into which they are divided, descended from seven, five, or three different Adams and Eves, or from one original pair; or that which supposes them to have been developed from some inferior kind of animals. It would be impossible were we even so disposed, to enter upon a discussion of this question in the limited space at our disposal; and we could not criticise the character of the work as an argument, without giving our reasons for our own conclusions. We may say, however, without expressing any opinion, as to the conclusiveness of his deductions, that he has at least written a book in good, strong, plain English, and in a style clear and attractive, leaving no doubt as to the meaning sought to be expressed. One thing is especially observable, and highly commendable in this age of bombastic pretention, that he has avoided, in a large measure, and wherever it was possible, the use of the high-sounding words so common in the mouths of philologists and professors of languages and the natural sciences, but difficult to be understood by unlearned readers. Whatever may be thought of his argument even by those who differ from him in theory, it must be admitted that his choice language and simple and intelligent style entitle him to a careful perusal.

Upon this particular subject there is a passage in his preface, which ought to be read and remembered. It is a remark in condemnation of one of the greatest literary evils of the age, the affectation of learning by the invention of new words. As this passage will serve, in some degree, to illustrate the style of the writer, and at the same time to convey an important truth, we shall copy it entire. Says the author:

> The dictionary of our noble language is a formidable volume, and much larger already than necessary. The additions annually made to it by writers ambitious to show their learning, who invent technical phrases and coin new words from all the ancient and modern languages, is a growing evil which is severely felt by all who attempt to learn it. Each philosopher, seems to be anxious to change the nomenclature of the sciences adopted by his predecessors. Discoveries of new things necessitate occasionally the invention of new words to designate them; yet, very few of the *ideas*, elicited by the most prolific inventors of words, are so novel as to require *new words* for their expression. Patriotism and philanthropy, as well as true philosophy, should incite us to guard the purity of our "mother tongue" from all profane and pedantic additions. We should improve the *tree* of our language by cultivating its roots, and by pruning from its *branches* all useless *parasites* and *fruitless grafts*, in order to make its treasures easily accessible to foreigners, and nutritive to the minds of our country's children.

The Life and Times of Henry Lord Brougham.*—The third and last volume of this remarkable autobiography—remarkable for other things as well as being the literary production of a man over ninety years of age—is now before the American public. Like the second volume, which we noticed at the time of its appearance, this one is chiefly composed of the official correspondence of the author and cotemporary statesmen of his own and other countries. These letters are connected together with remarks of the author of the book, which serve to make them understood, not only by intelligent English readers, but even by Americans who have no very clear conception of British politics. It is possible that the latter class of readers may not find as much genuine pleasure as the former in the perusal of these letters, as of course less interest will be felt in the subjects that are discussed. But such will find in these pages a great sufficiency of other matters, with which they can feel a sympathy. Throughout the volume are bits of biography, some of which, indeed, most of which, are capital criticisms. A few of these will serve to show the character of the volume in this particular, and from them may be inferred, in some measure, the value of the work. Of Lord Grey, between whom and the author the greater portion of the letters contained in this work passed, he says:

> "Of Lord Grey, who that values high spirit and perfect honor, combined with great abilities, can speak but in terms of affection and admiration? He had virtues and defects, both great, for Government, and for hard times. Of his virtues, honesty, openness, courage were striking. His business-like talents were perfect; no better man of business ever tied with red tape. * * Grey's talents as a debater were of a high, but not of the highest, order. * * His manner was excellent, both in person and in delivery; but he wanted clear argument combined with powerful declamation—the most difficult of all—and he could not *prepare*. His *forte* was a very lucid and seductive statement, and sometimes powerful appeals to the feelings—powerful, because evidently sincere. Canning's appeals were all from the mouth, never from the heart. But Canning had talents which Grey wanted. He could open a question far better than most people. His reply was generally less able. * * In Cabinet, Grey was the best of all colleagues—modest, unsparing of himself, firm when put up to it, perfectly free from all vanity, full of recources—next to Palmerston the fullest, perhaps—and perfectly fair and above-board."

When we take into consideration that Lord Brougham "had known him in opposition intimately for twenty-five years," to use his own language, this must be regarded as no mean eulogy; it is probably a critically correct description of the character and qualities of this great man—a man to whom Great Britain owes as much perhaps as to either Palmerston or Brougham.

In 1834, when the tithe question in Ireland was under discussion in Parliament, four members of the government, differing from the majority, resigned—Stanley, Richmond, Ripon, and Graham. The author when speaking of this important fact, says, "here I think I may appropriately say a few words upon the public character and distinguished attributes of the four colleagues who had thus separated from us." We have not space for all that is said, or even a considerable portion of it, but must content ourself and readers with a few brief touches.

> "Stanley, like John Russell, came into the Cabinet some time after it was formed. His talents were of a high, though not of the highest, order. He was a perfectly ready and a very able debater, with great powers of clear and distinct statement, with a high-pitched voice, far from musical, but clearly heard in every part of the House. He argued closely, but he required much backing and cheering, and never could fight an up-hill battle. In debate, he, like Canning, stuck at nothing in order to snatch an advantage.
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> Richmond was an admirable colleague. Full of courage, clear-headed, very good-humored, very quick, very candid—uneducated, except as a soldier; and who would with education have done considerable, perhaps great things. He was an excellent speaker—few better, that did not profess the art. In Cabinet, he was frank, open and honest, despising all intrigue—we were always sure of him.
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> Ripon was one of the moderate Tory converts to the Whig Government. But he was always much esteemed by us, while he had been in opposition. * * After Canning's death, in August, he was prime minister till January. His nerves failed him, and he could not stand the expected session. There never was a more upright or amiable man. His abilities were very respectable—indeed more. In the House of Commons he had greatly distinguished himself. * * Nothing could be more honest, open and ingenuous than Ripon's conduct on all occasions.
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>
> Although Graham was certainly raised out of his turn to a very high place—first lord of the Admiralty—and perhaps would have done better if he had risen more gradually, yet all admitted that his administration of that great department was as good as possible. * * Graham was also to be highly commended for his staunch virtue in refusing all jobbery. Nothing of nepotism (so rife elsewhere) could be charged upon him. The defects charged on Graham were of a totally different class, but they were not light ones. He was supposed to be somewhat intriguing, and we found him to be somewhat hurried in Council. * * Graham was a modest as well as a moderate man, and did not set up for a party Chief. He owed much to Grey.

Besides the biographical sketches from which we have quoted, and many others of like character scattered through these volumes, the last chapter of the one now under consideration, is devoted by the author to "a slight notice"—we quote his own language—"Of some of my most valued cotemporaries." These are Lord Holland (Henry Richard Nassall Fox), Lord Palmerston (Henry John Temple), Lord John Russell (afterwards Earl Russell), Lord Abinger (James Scarlet), Lord Plunkett (William Conyngham Plunkett,) Earl of Ellenborough (Edward Law), Earl of Durham (John George Lambton), Lord Grenville, Louis Phillippe, and John Wilson Croker, with many allusions to others scarcely less distinguished. If we had not quoted so largely from other parts of the volume, we should make a few extracts descriptive of the character and attributes of these great men. But having already occupied so much space, we must leave our readers to the perusal of the volume, which we feel quite sure they will find not only a delightful but a useful undertaking. Altogether, this work may be regarded as a valuable accession to biographical literature, and especially valuable as a book for future reference. The publishers have reproduced the work in a style at once attractive and substantial.

COLLEGE RECORD.

University of California (Oakland, Cal.)—At the last meeting of the Legislature of California $300,000 was appropriated for building purposes at this institution, and $6,000 a month for the next two years insured for current expenses. The property in Oakland belonging to the University is valued at $150,000; that at Berkeley at $150,000. The grant made by Congress was

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* *How the World was Peopled.* Ethnological Lectures, by Edward Fontaine, Professor of Theology and Natural Science; Member of the New York Historical Society, and the Academies of Sciences of New Orleans, Baltimore, etc. New York: D. Appleton & Company, 549 and 551 Broadway, 1872.

* *The Life and Times of Henry Lord Brougham*, written by himself. In three volumes. Vol. iii. New York: Harper & Brothers, Publishers, Franklin Square. 1872.

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about 150,000 acres, two-thirds of which has been sold or reliably applied for at $5 per acre. For the remainder there is a growing demand, from the fact that school and lien lands are about out of the market. The University is regarded as worth at least $1,350,000.

Shurtleff College, (Upper Alton, Ill.)—The number of students at present in attendance at Shurtleff College far exceeds the total number enrolled annually for several years past. Its three departments, Theological, Collegiate and Academic, are in full operation. The corps of teachers are able, efficient and thorough, and the improvement of the classes is in a high degree satisfactory. But the annual income is insufficient to meet the current expenses, and for several years the debt for deficiencies has been constantly accumulating. Property and funds amount to $139,206. The debt of the College amounts to $17,000. For several years, free tuition has been granted to ministerial students. The average number has been about forty. The trustees have decided that they can no longer grant this favor. To meet the case of such students as desire the advantages of the College but are unable to pay tuition, and to provide for a permanent annual income, the Trustees have determined to raise a Fund of $150,000. They also propose to raise an Annual Fund of $5,000, in shares of $5 each.

Syracuse University, (Syracuse, N. Y.)—A meeting of the students of this institution has just been held to adopt a Constitution and By-laws in reference to a university paper. Mr. Geo. W. Elliott, presided. Mr. F. J. Cheney read the proposed constitution, which, after various suggestions, was adopted. The Association consists of twenty-four members of the college—four being elected by each of the two secret societies—Upsilon Kappa and Delta Kappa Epsilon—and sixteen by the classes, four from each class. The constitution provides for the election of one editor and one publisher from each of the four classes, for every trimester. The paper was christened *The University Herald*, and the first issue will be made on or about the 20th of June. It is to be of sixteen pages, three columns to a page; printed on rose tint paper, and to be published monthly. The design is to make it the finest appearing college paper in the country. The chairman reported the bids which have been received for printing the *Herald*. A few more names are still required before the first number can be issued. Rev. J. P. Newman, D.D., has consented to pronounce the 1st annual commencement oration before the university on the 26th day of June.

Iowa State University, (Iowa City, Iowa.)—At a late meeting of the Board of Regents of this Institution some changes were made in the Normal Department. These changes go into operation at the beginning of the next collegiate year. These are:

1st. An advanced Normal Class was established, to which will be admitted only such members of the Junior and Senior classes of the collegiate department as intend to become teachers. Students desiring to take this Normal Course may pursue Rhetoric, Logic and Science of Government during the Junior year and with the Junior class. The additional branches, which are distinctively Normal or professional, may be embraced in one study during the entire year. Lectures will also be delivered and a course of professional reading prescribed.

Those who take this course and graduate with the degree of A. B., or B. Ph., will receive at graduation a certificate, and after two years of successful teaching be entitled to the degree of Bachelor of Didactics. It is expected that the University will thus "be able to send forth from year to year a supply of teachers possessed of rare qualifications for the government and instruction of High Schools and Academies, already one of the most pressing educational wants of the people, and certain to become more pressing in proportion, as the population, intelligence and wealth of the State increase."

2d. An Intermediate Normal Class, for the benefit of those below the Junior class. This course will embrace about two studies during one year, and consist mainly of a drill in those branches they will be expected to teach in the public schools.

3d. A Shorter Course of about eleven weeks, to be repeated from term to term.

In making the announcement of these changes in the University *Reporter*, Prof. S. N. Fellows affirms that it is not the design of these courses to rival Normal Schools. "As soon as a sufficient number of such schools shall be established we desire to suspend altogether this elementary work and attend solely to the higher normal instruction embraced in the 'Advanced Course' mentioned above."

Yale College, (New Haven Conn).—Prof. Weir's lectnre last Monday evening on "Color," was in every way a satisfactory and instructive disquisition upon the subject. We are glad to know that the six lectures of which two more remain to be given are to be published in book form. They cannot but form a valuable contribution to our knowledge of the subject.

Prof. Niemeyer takes the Scientific School Freshmen out into the country on Wednesday and Saturday mornings, and gives them in instruction in sketching from nature.

A meeting of the Boat Club was held last Tuesday afternoon, at which it was unaminously resolved to send a crew from the Academical Department to the Springfield Regatta. The Club signified its willingness to send the Scientific Crew also, in case those gentlemen are willing to go; a question which is to be decided hereafter. It was also decided to return to such members of other departments than the Academic who apply during the week, such money as they may have subscribed to support the University Crew. The crew at present consists of Day, '73, stroke, McCook '73, Cook '75, Flagg '73, Gunn '74 and Adee '73 bow.

Two games of Base Ball of some interest have been played during the week past. On last Saturday the Mansfields of Middletown, Conn., came down to play the return game and succeeded, in eight innings, in scoring 24 to the Yales 9. But, as if to atone for this overwhelming defeat, on Wednesday last, the Yale Nine beat the Eckfords of Brooklyn, by a score 13 to 5. To day the Nine play the first of a series of three games with the Harvard Nine. This game is to be played on Jarvis Field, and the Yale Club are to be the guests of the Harvard Club during their stay in Boston. It is expected that Harry Wright of the Boston Nine will umpire the game.

Notman's contracts with the class for '72 for class pictures, amount to the aggregate of $15,000. He lost some $400 by the recent rise in gold. The total number of class pictures, views, etc., ordered, amounts to almost twenty thousand. Mr. Notman, it is said, in the matter of photographs, has given general satisfaction, and his pictures are far superior both to his competitors and those of previous class photographers. On the other hand in the matter of mounting and some minor arrangements the seniors have had some difficulty with him.

Delta Kappa elected their Campaign Committtee last Saturday night. Bell is President, and the Committee is Anderson, Cook, Day, Jenks, D. Jones, McBirney, Mead and Post.

Fifteen or twenty Seniors had a most enjoyable walk to East Rock on Saturday with Professor Dana. The Yale *Courant* says, approaching the Rock by the way of the brewery, did not prevent the success of the expedition.

President. Woolsey is giving the Seniors six lectures upon international law. The first lecture was given Monday.

The May number of *The Lit*, the first number of the new board was issued on Saturday, and not only reflects credit upon those to whom its destinies are committed for the next year, but also promises well for the success and interest of the periodical during the same time. The contents are: Collegiate Conceit, The English and Athenian Idea of Liberty, Dreamland, Spencerism, Blue Doubts, On Seeming Virtu u., Return of Grief, Thoughts About Novels, Memorabilia Yalensia, Book Notices and Editor's Table. Dreamland, and Return to Grief, are Poetry. The remaining articles are fully up to the standard of *The Lit*. The Notabilia strikes us as exhibiting the possession of considerable of what may be called the "editorial sense."

Lincoln University, (Oxford, Penn.)—An effort is being made to add to the funds of this institution. An agent, Mr. Francis J. Grimké has been appointed for this purpose and he is now visiting different places with this end in view. The following extract from a circular issued by the institution explains the aim and scope of the University and what it is designed to do:

Eighteen years ago, when no practical cure had been discovered for the evils of slavery, and no feasible plan devised for its removal; and when as yet distant and dreaded Africa presented the only inviting field for the expansion of the social and intellectual nature of the Anglo-African, this institution was founded for the liberal education and improvement of the colored race. Here the despised Negro was welcomed to the advantages of collegiate training. Under the energetic and determined management of Dr. J. M. Dickey, the founder of the institution, the first difficulties of local opposition and general indifference were overcome. A college edifice was erected and a few students were gathered within its walls. The civil war, by abolishing slavery, opened up a brighter prospect before the friends of this work of Christian education. The Hon. E. Dodge, General E. M. Gregory, Dr. E. N. Kirk, and other well-known Christian patriots and philanthropists, were chosen trustees of the institution.

There are seven chairs of instruction, each filled with an earnest and competent professor. Other distinguished gentleman, lawyers and physicians, give instruction by special arrangement. Graduates from the collegiate department, while engaged in their professional studies, teach in the preparatory department with the best results. Three large halls have been erected for the accommodation of students. A large and convenient edifice to contain furnished recitation rooms for all the departments of study, a chapel, a library, a museum and a cabinet for philosophical apparatus is in course of erection. Four dwelling-houses are occupied by the resident professors, and the foundations of a fifth have been laid. Four of the professorships and a few scholarships have been endowed. The whole of this property, valued in the aggregate at about $225,000, is used for the benefit of the students, and is so managed that the academical expenses do not exceed $250 per annum.

There are 175 students in various departments of study, collected from all parts of the country undergoing a thorough preparation for the work of conducting the instruction, guiding the industry and promoting the material, intellectual and moral interests of our colored population. As students they are persevering and successful. For four successive years classes have been graduated from the collegiate department. They are prepared by their training here for eminent usefulness. Already our students, who have gone South, are teaching thousands of colored children, and ministering to scores of churches. The rooms for students in the university are now crowded. The number of applicants greatly exceeds the capacily of the institution. A larger number distributed in classes could be instructed with the same arrangements and force of teaching. Hundreds of young men are offering themselves as laborers in this vast moral harvest field. They are eagerly seeking the qualifications which shall fit them for the duties, as well as rights, of manhood and citizenship. The ig-

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norance of our colored citizens is a danger never to be lost sight of, till it is removed. Educated colored men bring to this task not only the power of a competent intelligence, but the attraction of a complete sympathy. Identity of condition disarms prejudice and helps to confidence.

The Trustees are making every effort to meet this demand for enlargement. The cannot content themselves with the easy task of continuing the work of the university in its present proportions. But they look to the friends of Christian education for encouragement and aid. A large addition to the funds of the university is immediately needed, to relieve the students from the charge of tuition by the endowment of the remaining professorships; to prevent the accumulation of debt on the buildings now in process of erection; to build another edifice for the accommodation of students, and to provide for the gratuitous education of worthy young men who would gladly devote their talents to the good of their country and their race, but who cannot meet the expenses of education.

YALE PERSONALS.

'13, ALLEN.—Rev. George Allen, now 80 years old and nearly blind, has resigned the chaplaincy of the Lunatic Asylum at Worcester, Mass., which he has usefully filled for nearly a quarter of a century.

'22, TODD.—The First Congregational Society, of Pittsfield, Mass., continue the salary of their pastor, Rev. John Todd, D.D., for life, with the use of the parsonage, he being now released from pastoral labor. The salary is $2,500.

'49, WOODRUFF.—Rev. C. T. Woodruff has been elected superintendent of the Missions of the Episcopal church in New York city. His address is 1315 4th Avenue.

'49, PECK.—Rev. David Peck's congregation at Sunderland, Mass., having repaired and improved their church edifice at an expense of more than $11,000, Mr. Peck preached a sermon, May 1st, at the re-dedication. It was also expected that as the first fruits of the recent revival, 37 persons would unite with the church by profession of their faith the next Sabbath.

'52, LEWIS.—Rev. A. N. Lewis has accepted the rectorship of St. James (Episcopal) church, Westville, Conn.

'57, STRONG.—Rev. Dr. Augustus H. Strong of Cleveland, has been unaminously elected to the professorship of Biblical Theology and the presidency of the Rochester Theological Seminary in the place of Dr. Robinson who goes to the presidency of Brown University. The *Examiner and Chronical* says of Dr. Strong: "His views of Christian truth are comprehensive and thoroughly evangelical, and no man has higher respect for the distinguishing convictions of his own denomination. His habits of close and patient study have not been intermitted, and he brings to his new appointments the qualities of mind and heart that make his late election an act of eminent wisdom."

'59, WILLARD.—Rev. John Willard is to minister to the Congregational church at Birmingham, another year.

'61, PARK.—Rev. Wm. E. Park, pastor of the Central Congregational church, Lawrence, Mass., has leave of absence for 6 months, on account of his health, and sails for Europe.

'62, CHAMBERLIN.—We have reeeived with the regards of D. H. Chamberlain of South Carolina, a printed letter from him to Hon. Hamilton Fish, Secretary of State, in reference to the Treaty of Washington. Mr. Chamberlain desires that such action shall be taken as will save the treaty.

'68, TINKER.—Mr. Anson P. Tinker of the senior class in Andover Theological Seminary accepts his call to the pastorate of the High street Congregational church, Portland, Me.

'64, HOYT.—Rev. James P. Hoyt's resignation of his pastorate of the Congregational church at Sherman, is not accepted by his people, who add $300 to his salary and repair the parsonage.

'66, BENNETT.—E. B. Bennett was announced as in town last week, during the senatorial struggle, in the interest of Gen. Hawley.

'70, DANA.—E. C. Dana '70 sails for Europe Saturday, May 25th. He will travel for several months and then begin his studies probably in Germany. He will remain abroad perhaps two years.

'71, TOWNSEND.—W. Townsend has commenced studying law in the office of Judge Nelson of Utica, N. Y.

'71, SMITH.—Philip Smith, who has had poor health since graduation has recovered, and is soon going into business with his father in Westfield, Mass.

'71, S.S.S. BROOKS. — C. P. Brooks who has been engaged in this city, in city surveying for some time past has accepted a position as civil engineer with General Dodge of Colorado.

'71, S.S.S., POWELL.—Mr. Ferdinand E. Powell who took the degree of Bachelor of Philosophy from the Sheffield Scientific School last summer, and has since pursued the study of law at Columbia Law School, recently died in New York city. His remains were taken to Pennsylvania for interment.

GLEANINGS.

PERSONAL.

— Prof. C. F. Hartt of Cornell recently began a course of four lectures on Brazil.

— Prof. Elisha Jones, acting professor of Greek at Michigan University, leaves Ann Arbor immediately after Commencement, and sails for Europe in August.

— Pres. Finney of Oberlin college has again tendered his resignation of the pastorate of the First Church, on account of his feeble health, and it has finally been accepted.

— Prof. Chas. F. Hartt of Cornell, recently read an interesting paper on the "Lower Amazon" before the Geographical Society of New York, at the Hall of the Historical Society in Second avenue.

— Prof. Hugo von Mohl, professor of Botany and director of the botanic garden at Tübingen, died at Tübingen on April 1st. Prof. von Mohl, was one of the most eminent vegatable physiologists of the time and had held his position at Tübingen since 1835.

— Dr. Döllinger has just celebrated the fifteenth anniversary of his consecration as a priest. The king of Bavaria sent him the "Order of Ludwig," and an autograph letter praising his life-long conscientiousness, and wishing God may preserve him long in physical and mental vigor.

— It was Prof. C. G. Wheeler of the University of Chicago, and not Prof. D. H. Wheeler of the Northwestern University as we wrongly said, in the *Courant* of May 4th, who has recently discovered an original process for restoring charred currency, so that it may be intelligible and of use to its owner.

COLLEGE.

— The Memorial Hall in Andover will be ready for dedication in September.

— The literary societies of Amherst Agricultural College have organized a Social Union.

— The juniors at Albion College, are using "Tyndal's Heat as a Mode of Motion," as a text book.

— It is claimed that none of the present junior class in Albion College either smokes, chews, swears, or uses intoxicating liquors.

— The class of '72, of Cornell University, have just planted seventy-two young elms on the campus, as their memorial gift to the university.

— Mr. Dasant, student of Christ Church, Oxford, and son of Mr. Dasant, one of the editors of the London *Times*, was drowned at Oxford recently while bathing.

— It is said that Daniel Donahue of Middletown, a member of the freshmen class of Wesleyan University, and known as the "boy poet," will soon publish a volume of his poems.

— Judd Hall at Wesleyan Uuiversity has recently received from Bermuda a lot of sponges, corals, turtles, stalactites and several barrels of rare fish.

— Six members of the senior class and eleven of the unior, have recently been elected members of the Phi Beta Kappa at Amherst.

— At the recent Commencement of the Southern Baptist Theological Seminary, at Greenville, S. C., there were four graduates.

— The next annual meeting of the British Association for the Advancement of Science, will be held at Brighton, commencing Wednesday, Aug. 14th.

— The third annual reunion of the alumni of Dickinson College was held in New York Friday evening May 17th. The occasion was well attended and thoroughly enjoyed.

— The graduating class of Bates College have secured the Germania Band and Miss Annie Louise Cary for their commencement concert, the 25th of June.

—The annual report on the Library of the Union Theological Seminary shows an increase during the year, of 738 volumes, making the whole number over 3,000.

— The freshman class at Amherst, contemplate sending a crew to Springfield, this Summer, in addition to the regular college crew. They have raised $290 for the purpose thus far.

— The Providence *Press* says:—It is reported that the will of the late William Sanford Rogers contains a bequest of $50,000 to found a professorship of chemistry in Brown University.

— The Gymnasium Association of Beloit College has received subscriptions amounting to $831, which they desire to see multiplied by ten, at least, for the erection and equipment of their building.

— A portrait of Judge Samuel Phillips is now in the hands of the artist, and will be presented to Phillips Academy by his family descendants. It is expected to be completed in season for the dedication of the new Phillips Exeter Academy.

– The National Convention of the Delta Tau Delta Fraternity was held at Indiana State University on Thursday May 16th. In the evening an oration was pronounced by Rev. H. I. Miller of Akron, O., on "The Scholar and the Nation."

— Fifty-five thousand dollars have been subscribed by three gentlemen—one giving $15,000 and two $20,000 each—toward the $100,000 endowment of the University at Rochester. The Seminary has also received additional subscriptions to nearly the same amount from two of its friends.

— The Jubilee Singers of Fisk University, who have been at home, in Nashville, for a few days, recruiting and visiting their friends, have again started for a trip through Michigan, Wisconsin, Iowa and Illinois with the expectation of being present at the General Conferences and Associations of those States.

—The *Advertiser* says that the following members of the senior class of Bowdoin College, having taken the highest stand in oratory and themes, have been selected to compete for the '68 prize. J. G. Abbott, S. L. Gross, H. Harris, H. M. Heath, J. S. Richards, and H. Wilder. The exhibition will take place June 3d.

— At a late meeting of the Board of Trustees, of the Danville, (Ky.) Theological Seminary, after a full discussion, it was unanimously resolved that neither of two propositions suggested, of removing to some other point, or suspending it for a term of years, was feasible, partly on account of legal obstacles.

— The Trinity college nine has been made up as follows; E. B. Watts, '73, c., Carlisle, Pa.; W. W. Blair, '75, p., Alleghany City, Pa.; C. Platt, '75, 1st b., Philadelphia, J. C. Buxton '73, 2d b., Asheville, N. C.; C. E. Craik, '74, 3d b., Louisville; W. A. Platt, 75, s. s., Philadelphia; R. Murray, '73, l. f., Goshen, N. Y.; W. J. Roberts, '75, c. f., Detroit; J. T. Bowdish, '73, r. f., Hartford.

— The speakers for the Hyde prize, at Amherst this Summer, a prize of one-hundred dollars given to that member of the senior class who produces the best oration, are H. B. Adams, Amherst, Mass.; H. Bailey, Fitchburg, Mass.; B. Bancroft, Marlboro, Mass.; J. B, Clark; A. H. Thompson, Searsport, Me.; and H. S. Stevens, Chicago, Ill.

— The Wesleyan University Boat Club lately held its first regular meeting and elected the following officers for the ensuing year: President, Benjamin S. Clark; Vice-President, A. C. True; Recording Secretary, A. M. Talmadge: Corresponding Secretary, J. E. Denison; Treasurer, S. W. Kent; Captain, G. B. D. Toy; Directors, Professor Van Vleck, H. T. Scudder, O. L. Livesey, M. L. Taft, W. F. Borgett.

— The Geological museum of the University of Rome has recently received from King Victor Emanuel, a collection of Peruvian Antiquities. The collection consists of silver vases, curious musical instruments, a colored garment made from the bark of trees, and arrows and lances. The articles were discovered in a guano bed. The lances are notched, ornamented with feathers, and have wooden heads.

— The Harvard boat crew have been finally chosen as follows: University crew—Dana, '74, (stroke); W. Goodwin, '74, 2d; W. J. Lloyd, '73, 3d; H. L. Morse, '74, 4th; E. P. Bliss, '73, 5th; A. L. Devins, '74, (bow); Freshmen crew—H. S. Hunnewell, (stroke); J. F, Welles, 2d; J. Green, 3d; W. Hartwell, 4th; F. R. Appleton, 5th; F. S. Gould, (bow). F. S. Gould has been chosen captain of this crew, vice W. Hartwell, resigned.

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— A Harvard student is said to be about to take to the stage under the teaching of Fechter.

— Drew Theological Seminary last year was obliged to reject 300 out of 400 applications for admission.

— $285,000 was realized on the land scrip donated by Congress to the State of Virgina for agricultural college purposes,

— A Dartmouth party with Prof. Quimby have begun work for the triangulation of the State, under the direction of the Coast Survey.

— The sum of $53,000, besides $10,000 in land, has been subscribed in Nashville, and $30,000 more pledged, for the removal of the Baptist Theological Seminary from South Carolina to that city.

— A project is on foot to establish in New York city, a botanical garden. Over $55,000 have already been promised and subscribed; and lots fronting 200 feet on Madison avenue, 23 feet on Fifty-third street and 75 feet on Fifty-second street, have been secured; also Mr. Cornell has made an estimate that the necessary building of iron and glass could be erected for $25,000. The sum necessary to carry out the plan is deemed to be $150,000.

— We learn from the Detoit *Post* that some dissatisfaction has lately been created at the Agricultural College, by an advance on the price of board from $2,60 to $3 per week. The col ege lost several hundred dollars last year on board at $2,60 per week for each student. The unusual continuance of cold weather this spring has caused an extra consumption of fuel, and this, with the high price of food material, has made it necessary to raise the price of board to $3 per week to save the college from actual loss.

— Some time during this term an occupant to the Wayntlete Professorship of Chemistry at Oxford University England is to be elected. The income of the professorship is £600 per annum, and the occupant of the chair is required to reside at the University at least six calendar months between the 10th of October of each year, and the next July. The electors are the chancellor of the University, the visitor and president of of Magdalen College and the presidents of the Royal Society, and of the College of Physicians.

— The Rev. W. S. McClanahan is at present in New York city engaged in the endeavor to secure funds sufficient to clear Roanoke College of Salem, Va., from a small but pressing load of debt, incurred in the extension of its buildings, at a time when circumstances seemed to warrant such an undertaking, but which the present depressed condition of material interests at the South cannot provide for. The institution is literary and non-sectarian in its culture though under Lutheran management, and has had large accessions of pupils during the present year.

— The culture of sugar beets at the agricultural college at Amherst, Mass., will be carefully carried on this year, for the purpose of finding accurately the lowest cost of raising the beets. Six hundred dollars' worth of machinery has been procured in Europe for the sowing and harvesting processes. Five acres, of a standard variety, will be sown this year. The bill just passed by the senate for the encouragement of beet sugar manufacture exempts all such manufactories from taxation for ten years, which is equivalent to a bonus of $5,000. A like bill has just been passed in New Jersey, at the suggestion of President Clark.

— At a recent meeting of the Alumni Association of Columbia College Law School, L. B. Prince was elected President for the ensuing year. Edmund Wetmore, Esq., George L. Ingraham, Esq., and John H. Turner, Esq., were elected Vice-Presidents. Frank Sherman Smith, Esq., was elected Secretary, and Elliott Sanford, Esq., Treasurer. The Advisory Committee was filled by the election of one from each class since the establishment of the school in 1860 to the present. William D. Faulke, of the class of 1871, was elected Alumni Orator for the commencement in 1873. A resolution was passed for the appointment of a Committee of seven, to revise the Constitution and By-laws, their report to be made to the alumni at a special meeting to be called for that purpose.

HERNIA.—It is now demonstrated that rupture can be surely cured without suffering. *Elastic Trusses* are superseding all others. We advise all, before buying metal trusses or supporters, to send for a descriptive circular to the ELASTIC TRUSS COMPANY, No. 683 Broadway, New York.

AN ILL WIND is wind in the stomach, but quickly driven off by Williams' Extract Jamaica Ginger.

Pronounced by GENERAL EATON, Commissioner of Education at Washington, to be the best system in the United States.
"Children not taught like parrots to sing by rote, but taught to READ music and sing it AT SIGHT."

JEPSON'S MUSIC READERS FOR PUBLIC SCHOOLS.

SIMPLE. PROGRESSIVE. TESTED FOR TEN YEARS.

The result of actual experience in the schoolroom.

Every teacher who has ever desired to instruct children in the elements of music has felt the need of a book that was simple, clear and progressive in its character—one that could be used successfully even if the teacher was scarcely proficient in the first rudiments of the science. Such is the Music Reader by Prof. Benjamin Jepson. As to the value of the system no higher commendation can be given than that awarded by Gen. Eaton, who, after visiting the schools of the United States, gave his unqualified endorsement of this system as the best he had seen.

THE TESTIMONY OF PROF. HUNTINGTON IN REGARD TO JEPSON'S MUSIC READER.

During a period of twenty-five years in which I have been engaged in teaching, much of the time in schools and seminaries, I have been unable to find a text-book or music manual which would not either confuse the pupils by introducing a multiplicity of ideas in the same exercise or promote *rote singing* by limiting the demonstration of each principle to a single exercise, until I found the system adopted in Prof. Jepson's book, which, in my opinion, must be the one universally accepted and fostered by the public schools of our land. The intrinsic value and merit of the book has been fully demonstrated in the schools of New Haven, where it has been used for the past six years by its author, and in those of Hartford and its vicinity by Prof. R. S. True. One very important feature of the work is that it can be readily understood by subordinate teachers even though not altogether familiar with the science; and with the same preparation for each recitation which is made in every other science, music may be *as* effectually taught, which is shown in all the public schools where it has been adopted.

Prof. Jepson is worthy of high esteem, not only as a thorough musician, but as a philanthropist, placing in the hands of the children and adults of our country a book which will enable them to successfully cope with the musical progress of the age.

C. W. HUNTINGTON, *Hartford, Conn.*

TESTIMONY OF HON. BIRDSEY G. NORTHROP, SECRETARY OF THE STATE BOARD OF EDUCATION OF CONNECTICUT.

Mr. Benj. Jepson, the instructor of Vocal Music in the public schools of New Haven, has shown great tact and skill in teaching singing by note to even the youngest pupils in the schools of the city. His system has been long and thoroughly tested in New Haven, where it is now working admirably. Gen. Eaton, National Commissioner of Education, and Gov. English, when visiting the schools of this city, expressed their surprise and gratification at hearing children in the primary schools sing *at sight* various exercises marked at the time on the blackboard. I should be glad to find the system which has here been so successful, generally adopted. Certainly, music should be taught in all our schools.

B. G. NORTHROP,

Secretary State Board of Education.

FROM PROF. HIBBARD, THE ELOCUTIONIST.

Prof. Jepson's method of teaching singing, as arranged in his "Elementary Music Reader," is of a *very superior order*, and in our schools will do everything that can be reasonably expected of a work of the kind.

RALPH G. HIBBARD, *Professor of Elocution.*

The following is the testimony from the principals of the public schools of New Haven, Hartford and Middletown, where the system has been tested thoroughly:

I am familiar with Mr. B. Jepson's methods of instruction in singing as laid down in his "Elementary Music Reader," and as exemplified in his own practice. The "Reader," both in the earlier and later editions, has been used in our schools, and I am convinced that if the course there indicated be followed with tolerable energy and perseverance, the results will demonstrate the great value of the system and of the book.

H. E. SAWYER, Superintendent of Schools, Middletown, Ct.

I have been using "Jepson's Elementary Music Reader" for some months and am desirous of expressing my ever increasing satisfaction with it as a text book. Having been written by a gentleman who has had a large experience in this hitherto neglected but very important branch of education, it exactly meets the want felt in all schools, public or private, where music as a study is being introduced. The explanations are so simple, and the exercises so easy, progressive and attractive that the book commends itself to all who use it—and teachers with only a moderate knowledge of music will be able, by its use, to teach thoroughly and practically.

A. L. CURTISS, Teacher of Vocal Music, South District Schools, Hartford, Conn.

We have tested Prof. Jepson's "Music Reader" in the various grades of our school, and find them most admirably adapted to their purpose.

D. P. CORBIN, Principal Asylum Hill Grammar School, Hartford, Conn.

Every exercise which is undertaken in the school-room should be executed honestly and thoroughly. I have always regarded the "Elementary Vocal Drill" as the exercises of all others the most reluctant to conform to this rule. In overcoming the difficulties of the exercise, I have received more help from Mr. Jepson's system of elementary vocal drill than from any other.

JOSEPH GILE, Principal of Eaton School, New Haven.

Prof. Jepson's Music Reader is, in my opinion, the most systematic and best adapted to school use, of any work of its kind now before the public. I have entertained a high opinion respecting its merits, since first seeing it in manuscript—*an opinion which its use in the school-room for several years has greatly strengthened.* Prof. Jepson is deserving of the praise which his highly meritorious work receives, and we cheerfully add our testimony to the above.

RALPH H. PARK, Principal of Wooster School, New Haven.

"Jepson's Music Reader" has been used in the daily practice of vocal music in his school since its organization. The results have been, not only satisfactory, but wonderful. The system is such that children reading in the Primer or First Reader can learn to sing the scale, first by numeral, then by syllable, then simple melodies in different keys, and so on through the elements of music. The children in the Grammar Department are able to sing new music at sight in four parts. The time spent in the daily practice is from fifteen to twenty minutes.

H. C. DAVIS, Principal Skinner School, New Haven.

It gives me much pleasure to testify of the success attending the study of vocal music in our school under the superior management of Prof. Jepson. Mr. J. is thoroughly qualified for his work, and enters into it with a zeal that is highly commendable. Not being satisfied, however, with what he has already done, he has conceived the idea of revising his "Elementary Music Reader," making a complete and easy gradation of exercises adapted to the wants of the younger as well as the older pupils. Mr. Jepson has already established an enviable reputation in New Haven as a teacher of vocal music, and his revised work, so admirably adapted to school use, will no doubt meet with a large sale.

GEO. R. BURTON, Prin. Wash. School, New Haven.

For several years I have had the opportunity of observing Prof. B. Jepson as a teacher of music in public schools, and more particularly in our own High School. In his department of instruction, I have never known his equal in securing early and valuable results. Whether his success has been mainly due to his own personal efficiency or to the peculiar features of his system as comprised in his "Music Reader," I cannot tell; I only know that the training he gives is thorough and natural, and that his pupils early learn to sing with a rare degree of intelligence and self-reliance.

T. W. T. CURTIS, Principal of High School, New Haven.

Mr. Jepson's work and methods in teaching music in the New Haven public schools is an undoubted success. I would cordially commend his books to the attention of all who have an interest in this study in schools.

JOHN G. LEWIS, Principal of Webster School, New Haven.

It gives me great pleasure to recommend Prof. B. Jepson's system of music and vocal culture. At the time of its introduction I doubted the utility of teaching note singing in our large schools, but its perfect success has disarmed prejudice, and I should now regret any change which would deprive us of instruction so valuable. Very truly,

L. L. CAMP, Principal of Dwight School, New Haven.

It gives me pleasure to recommend Prof. Jepson's "Music Reader" to any wishing a thorough course of instruction in music in their schools. The books are, as their title imports, a *series* of music readers *systematically* and *progressively* arranged for the use of all grades of pupils, from the Primary to the High School. These readers have borne *most successfully* the best test of school books, namely, a daily use in classes for a term of years; and have been instrumental in convincing the most skeptical that all can be taught to read music with facility by the time that they are prepared for the High School.

JAMES D. WHITMORE, New Haven High School.

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VOLUME X. SATURDAY, JUNE 1, 1872. NUMBER 22.

STEVENS INSTITUTE OF TECHNOLOGY.

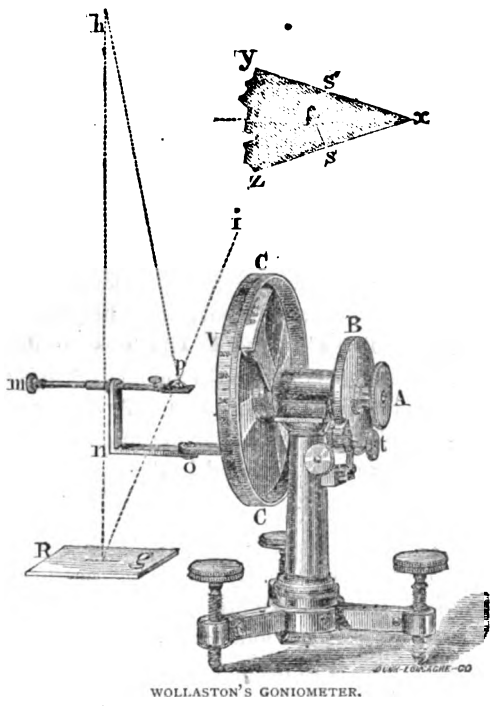
COLLECTIONS OF THE VARIOUS DEPARTMENTS.

The Collections of the Institute are so extensive that it is difficult, without occupying too much space, to make any detailed enumeration of them, but they may be described in classes, as follows: In the

DEPARTMENT OF PHYSICS,

The apparatus for *Linear Measure*, comprises a linear dividing engine, of large size, dividing to millimetres, from Salleron, Paris; a linear dividing engine, dividing two feet to $\frac{1}{100}$ of an inch; a spherometer; Kater's reversion pendulum; set of Brown & Sharp scales, squares, gauges, micrometer screw, etc.; Saxton's reflecting comparator; comparator of yard and meter, of new form, constructed in the Coast Survey Office, under the direction of Prof. J. E. Hilgard, and provided with every refinement of adjustment.

For the *Measurement of Angles*, there are a Theodolite; a Wollaston's reflecting goniometer, and a Babinet's reflecting goniometer.



WOLLASTON'S GONIOMETER.

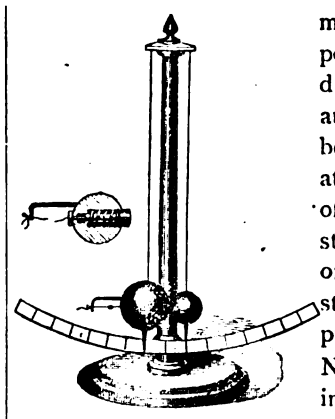
For the *Measurement of Capacities*, graduated vessels of various volumes, and divided into various measures, have been procured.

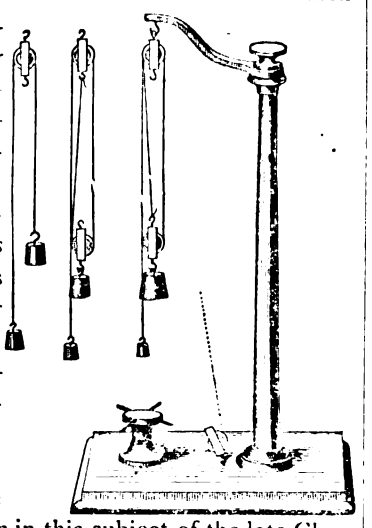
For the *Measurement of Weights*—The Institute has a standard balance, thirty inches beam, carrying five kilogrammes in each pan, turning with one milligramme, and sets of accurately adjusted weights for both French and English standards.

For the *Measurement of Time*, there is a Chronoscope from Hipp of Neuchatel, also, an Electric Chronograph from the same maker and a Recording Chronograph of Casella.

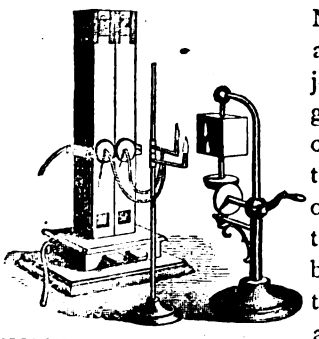
In *Molecular Physics* the collection embraces the various forms of apparatus for illustration of cohesion, capillarity, etc., devised by Simon, Berlard, Graham, Bunsen and others, including Plateau's apparatus for the study of liquids freed from the action of gravity, and the various forms of diffusion apparatus devised by Graham and others. Also, instruments for the measurement of elasticity in solids, the effects of torsional and other strains.

For the *Elucidation of Elementary Mechanics*, all the apparatus which has been devised for the illustration of mechanical laws, has been obtained; such as the Atwood's machine, that of General Morin; the whirling table; sets of mechanical powers, suspended ivory balls (several sets of different mass, and with various attachments, illustrating different points), illustrations of hydrostatics, hydrodynamics and pneumatics, including, beside all the simpler apparatus, several fine air pumps of the most improved construction, working models of the hydraulic ram, hydrostatic press, water wheels, pumps, steam engine and a Natterer's pump for liquifying gases, made by E. S. Ritchie. In the same connection should also be mentioned Bourdon's apparatus, consisting of air chambers, with manometers, air gun, etc., to illustrate the laws of vis-viva. This division contains about 100 complete instruments or sets of illustrations, such as those included under the title mechanical powers, whirling machine, or centre of gravity illustrations.

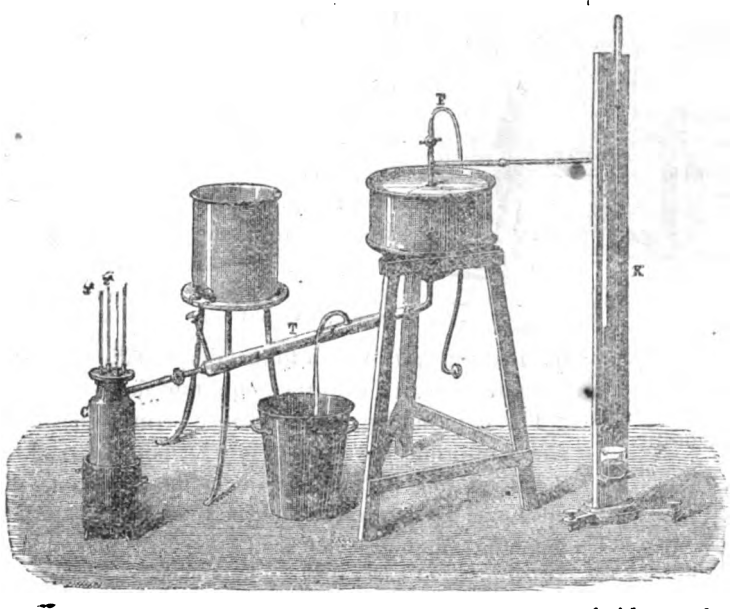




In *Acoustics*, the apparatus includes as one item the entire collection in this subject of the late Chas. N. Bancker, of Philadelphia; and numbers among its objects, numerous sets of organ pipes and tuning forks, of every material, adapted to illustrate the various laws of sound, and, also, sonometers, sirens, resonators, vibrating rods of various material, Schaffgotsch's apparatus, manometric flame apparatus, Scott's phonautograph, and, in fact, an unusually complete collection of every appliance that can be made useful in the illustration or study of the subject of acoustics.



ORGAN PIPES WITH MANOMETRIC FLAMES.



REGNAULT'S APPARATUS FOR RELATIONS OF TEMPERATURE AND TENSION.

On account of the important bearing which Heat has on the professional work of the mechanical engineer, particular attention has been given to the completeness of this part of the collection, which comprises, in addition to all the usual instruments fitted for illustration before a class, all the instruments of precision by which accurate measurements of specific and latent heat of solids, liquids or gases may be made, as well as the relations between tension and temperature of vapor, the co-efficients of expansion in all forms of matter and the like. This part of the collection, in fact, includes all the instruments used in the classical researches of Dalton, Gay Lussac, Dumas and Regnault. Under the same subject must also be mentioned a complete set of apparatus for the repetition of Meloni's and Tyndall's researches on radiant heat, its reflection, refraction, polarization and absorption, including several thermo-electric piles and galvanometers.

Under the head *Electricity* are included a complete series of instruments for class exhibition, as well as those for accurate measurements and investigation. Thus, in the first class are to be found the ordinary electric machine, with all its attendant apparatus of leyden jars, electroscopes, electrometers, bells, orreries and the like; the Holtz machine, from Ruhmkorff, of Paris; three induction coils, one of twenty-one inch spark, one of eight inch, both by E. S. Ritchie, and a smaller one of French manufacture. A collection of Geissler's tubes, by far the largest in the country, with many other pieces of apparatus specially adapted for use with these powerful sources of electricity, should be mentioned in this place.

A Bunsen battery of sixteen couples, for the electric light; another series of four immersion batteries, each equal to fifteen Bunsen couples, of more than a foot surface each; a water battery of 550 cells, and several other batteries for special purposes, such as a small immersion Smee battery of twenty cells, for electrical measurements, a Grove's battery of twelve cells, and a large Smee of eleven cells, a modified Daniell of seven cells, and many single cells of the flask or other forms, afford an abundant supply of electric force for all purposes.

The largest electro-magnet yet constructed, weighing nearly a ton, containing in its eight spools, some two thousand feet of wire, one-fifth of an inch in diameter, and provided with all the attachments for experiments in Diamagnetism, should be included here; so also a series of all the usual forms of electro-magnetic motors and instruments for the illustration of the laws of the magnetic force, and its relation to galvanic currents.

Among the instruments for electrical measurement we may enumerate, as supplied by Elliott & Co., of London, a Thompson's double coil astatic galvanometer, with shunts (this is the instrument used on the Atlantic and other ocean cables); a Thompson's single coil, low resistance galvanometer, with shunts, lamps, scales, etc.; a set of resistance coils, with bridge; a tangent galvanometer, with two conical coils, (modification of Gaugan's); Wheatstone's bridge; Puggendorff's rheocord; Wheatstone's rheostat; astatic galvanometer; thermo-electric pile; quadrant electrometer, with key; condenser of microfarads; spiral induction coils; differential induction coils; Dubois Reymond's induction coils; Delezenne's ring, for developing galvanic current from the earth's magnetism; also another instrument of the same sort for class illustration, two and a half feet in diameter. Also, from Chester, of New York, a set of resistance coils, bridge and galvanometer in case, small galvanometer commutator, etc.

The Institute's cabinet of apparatus for the illustration of *Optics* is the most complete in the country. It contains, as one item, the instruments continuously collected during the past fifty years, by the late Charles N. Bancker,

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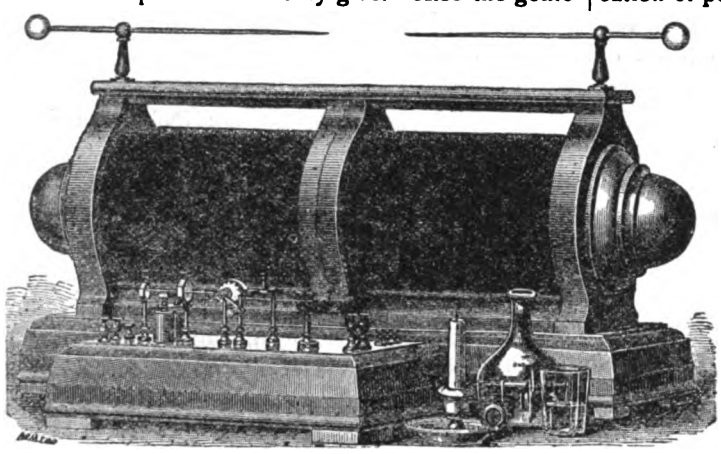
of Philadelphia, and thus, with the additions made to it since its purchase, forms a collection illustrating the whole progress of optical discovery.

In this department are found all the aids necessary either for class illustrations of optical phenomena or for the prosecution of higher studies. Thus, there are here included electric and oxyhydrogen lanterns of various forms, porte-lumieres and heliostats for the production or direction of pencils of light to be experimented with; apparatus for illustrating the laws of reflection; prisms of all kinds of glass, of quartz, fluor-spar, calc-spar, amber and rock salt, as well as hollow prisms and prismatic troughs for liquids, for the measure of the indices of refraction of these substances, and for the study of the various spectra which they give. Also the goniometer of Babinet, and another fine instrument constructed by Elliott, of London, which is so arranged that it serves for determining an index for refraction, for the mapping of spectra, and for the measuring of the wave lengths of the various colored rays of light, by angular measures on diffraction spectra produced by fine lines closely ruled on glass plates. To aid in similar work the Institute possesses three spectroscopes—two by Browning and one by Desaga. In the collection are reflecting and refracting telescopes of every system; an excellent Zeutmayer microscope, provided with all the accessories of Smith & Beck for mounting objects; a superior $\frac{1}{12}$ objective, by Powell & Lealand; and numerous microscopic objects, including a superb Müller diatomacean type plate.



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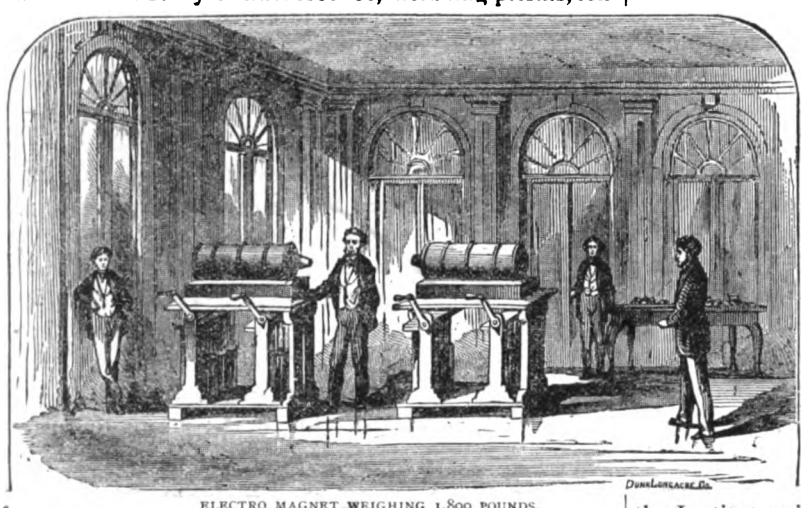
Becquerel's phosphoroscope and all of Stokes' apparatus for the study of fluorescence, including prisms, lenses and tanks of quartz, a lens of fluor-spar, large blocks of uranium glass, and a very complete collection of fluorescent solids and liquids furnish peculiar facilities for the exhibition and study of these interesting phenomena.



ELECTRO MAGNET WEIGHING 1,800 POUNDS.

The instruments for elucidating the phenomena and laws of the diffraction, the interference and the polarization of light are so numerous that we can only particularily mention a few of them; as the diffraction bench of Dubosq, and another of Babinet, also a superb interferential refractometer of Fresnel and Arago, for measuring indices of refraction of gases by the displacement of the interference bands produced by two pencils of light, one of which has passed through air, the other through gas whose index we would determine. Among the apparatus for the study of polarized light there are polariscopes of Noremberg, of Amici, of Airy and of Dove—accompained with complete collections of crystal sections, also Biot's large apparatus for studying rotatory polarization, and Soleil's saccharimeter which applies the above phenomena to the analyses of cane and grape sugars. The collection also contains a series of optical drawings and models, among which we may mention models of Fresnel's wave surface, as developed by Hamilton; with Loyd's and Beer's apparatus for showing the remarkable phenomena of conical and cylindrical refraction, of which Hamilton's model shows the theoretic prediction. Some notion of the completeness of this collection can be formed from the fact that it contains thirty-four complete instruments for the study and application of polarized light alone.

DEPARTMENT OF ENGINEERING.

The collections of drawings, apparatus and models in the Department of Mechanical Engineering, which are already quite extensive, are continually being enlarged, both by purchase and by contributions, from manufacturers, engineers and other friends of the Institute.

Among the drawings are complete sets, representing the hulls and engines of steam vessels, locomotive and stationary engines and machinery of various kinds. The larger proportion are manuscript drawings, made for actual construction in the drawing rooms of their designers; some are the product of the labor of the students, and other are lithographed drawings obtained by purchase at home and abroad.

The models and apparatus of this department are from Schröder, of Darmstadt, and Salleron, of Paris; from the instrument makers of the Institute, and from the Patent Office.

There are models of trusses and bridges; of the elements of machines, such as cams, gearing and cranks, and other methods of transmitting and modifying motion; of simple machines, as pumps, windlasses and pulleys; of motors, as wind mills, water wheels of various kinds, air, gas and steam engines.

Orders are still outstanding for considerable addition to the collection, and the workshops of the Institute, while enabling the student to become practically acquainted with working machinery, will also, by adding to the collection of models, be very useful to the College.

This department possesses and is collecting samples of the various kinds of woods, stones and metals employed in the arts in their various stages of preparation for use, of the commercial lubricating oils, and other materials, with the properties of which the engineer is expected to be familiar.

The use of the powerful testing machine of the Camden and Amboy repair shops has been generously tendered to the Institute for experimenting upon strength of materials; and apparatus made by Salleron has been imported for investigations of their elasticity and resilience. Other machinery will be built by the Institute with which to make unusually accurate and extended researches in this important field.

For determining the resistance of machines and the power of prime movers the Pony Dynamometrical Brake, the Recording Spring Dynamometer, Emerson's Portable Lever Dynamometer, and a number of steam engine indicators, among which are Richard's Indicator and the McNaught, of several sizes, have been obtained.

The machine shop contains one of Sellers' planers, the Star Tool Co., and Baldwin lathes, a Browne & Sharpe universal milling machine, an upright drill, emery grinder, and other machine tools; full sets of hand tools, including Whitworth's standard gauges, and also wood-working tools. The shafting is from Sellers & Co.

DEPARTMENT OF CHEMISTRY.

The Cabinet of Minerals comprises 3,600 specimens. They are divided into three collections:

1. Systematically classified, according to the chemical and crystallographic nature of the substances.

2. Large Specimens, showing the including rocks and the association of minerals.

3. Unclassified and unlabelled substances, for use by students in the determination of minerals.

A sufficient number of models of crystals has been obtained to illustrate the crystalline form of the most important mineral species, and to elucidate the science of crystallography.

4. The cabinet of chemical substances comprises specimens of Barium, Strontium, Palladium, Selenium, Titanium, and the rarer metals generally in the elementary condition; also all the common and many of the rare metallic salts. A sufficient number of specimens, illustrating the application of chemistry to the arts, has been procured to lay the foundation of a Cabinet of Technical Chemistry, and the attention of manufacturers who may desire to deposit in a public place devoted to Technical Sciences, specimens of their products is particularly called to this important collection.

5. The chemical museum includes Endiometers, Mercurial Troughs, and graduated vessels of every description requisite in Gasometry. Also Burettes and Normal Solutions for Volumetric Analysis. A complete set of lecture apparatus, including that of Hofmann, made by Leppin & Mäsche, of Berlin. Three collections, of 100 specimens each, for determination by students in Qualitative, Quantitative and Blowpipe Analysis, with the requisite re-agents, apparatus and balances. Finally, combustion tubes and furnaces, absorption and collection tubes for Organic Analysis.

DEPARTMENT OF DRAWING.

This includes a set of models of problems in Descriptive Geometry of Wood and Metal from Schrœder of Darmstadt; a set of Olivier's Models with brass frames and silk cords and a large collection of model drawings of subjects in Mechanical Engineering and Architecture; as, also, a full supply of all such drawing instruments as are desirable and are not included in the ordinary sets required by each student.

LIBRARY.

The Library is constantly receiving accessions, as full sets of the various scientific journals and proceedings of societies can be obtained. It already contains, in addition to the various standard works on science and engineering in French and German, full sets of The Philosophical Transactions of the Royal Society, The proceedings of the Royal Institution, the Comptes Rendus of the French Academy, and transactions of various other societies. Also, The Philosophical Magazine, Taylor's Scientific Memoirs, Engineering, The Engineer, The Mechanics' Magazine, Cosmos, Les Mondes Annales de Chimie et de Physique, Chemical News, Silliman's Journal, the Journal of the Franklin Institute, Nature, Poggendorff's Annalen and Carl's Repertorium. These are all in full sets to date, and new issues are regularly received, as also is the case with all the American publications bearing upon general science or the special subjects of mechanical engineering, including the full series of specifications published by the Patent Office.

As will be seen from the foregoing account, the Institution is essentially a school of Mechanical Engineering, and will therefore confer upon its regular graduates the degree of Mechanical Engineer. As, however, the course which has been arranged with this end in view involves a very thorough training in the general principles of Physical and Chemical Science, it has been thought advisable to give opportunity to those students who may find their inclination and capacity leading them in the direction of these sciences, to pursue a course of Physics and Chemistry as an alternative to that of Mechanical Engineering.

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During the first two years the Course of Studies embraces those general principles which are essential in any scientific pursuit, but in the third and fourth years the student may substitute work in the Physical and Chemical Laboratories for the time otherwise devoted to Engineering, and may then graduate, with the degree of Doctor of Philosophy after passing the requisite examinations and presenting theses on the subjects of Chemistry and Physics.

Such then is the general idea of this institution which enters upon a new field, but one which cannot but prove rich in results beneficial to the manufacturing industries of the country and to the progress of science at large. It is now concluding the first year of its active existence under the most favorable auspices. Its first class we are told by members of the faculty is of the best material, and will undoubtedly give that character to the institution which it is so important to establish, and which is only to be established by such evidence of its work.

SYSTEMATIC EDUCATION REGARDING THE HUMANE TREATMENT OF ANIMALS.

BY PROF. C. GILBERT WHEELER.

It seems probable that we must continue to have laws for the protection of dumb animals, and also efforts to enforce these laws and to punish offenders. Yet, if compelled to stop here the labor seems incomplete. Necessarily but a small proportion of the instances of cruelty to animals do, or ever can, by any possibility, come to the notice of the various Humane Societies. Nor, again, even when the offenders are known, the offence proved, and punishment meted out, have we then succeeded in making a humane man out of the guilty party. We have not thereby wrested one from the ranks of the inhuman and cruel, and by so much, strengthened the force of those who would protect that class of innocent sufferers who cannot protect, or even speak for themselves. The truth is, the inhuman man is no way bettered by fine and imprisonment, but often the dumb brute is made again to suffer in revenge for the punishment of its more brutish owner. Yet the protection of society and of the dumb animals seems to demand that bad men be restrained from cruelty by pains and penalties. Still there can be no doubt, I think, but that the most hopeful work of the various societies for the prevention of cruelty to animals, is based upon right instruction of the young, in the absolute duty of kindness to the lower creatures. The truism that early impressions are never forgotten is no where better exemplified than in the case of the child early taught humanity to the brute creation. And as from the various Universities, Colleges and Moral schools of the country, hundreds, perhaps thousands, are to graduate within the next few weeks, very many of whom for a longer or shorter period, purpose teaching, it may be opportune to call the attention of such to the importance of teaching kindness and compassion to animals. Briefly, then, let me urge the importance of some systematic effort in this direction. And that what I present may not be too general, vague, and therefore leave little impression, I will endeavor to show how the good arrived at may practically be accomplished. For I believe it is possible to efficiently and systematically carry out a plan of humane education without materially changing the ordinary school routine.

My method of teaching the principle of kindness to animals assumes that it is usually only necessary to interest the pupils in animals in order that love for them may follow, as a rule. This interest may be excited easily by the thoughtful teacher and may be sustained throughout their entire school career in some such method as the following. The instructor who is interested in the work will readily think of other details in accordance with the same general plan :—

Two days, or at least one day in the week, all the lessons should be conducted with reference to this subject. For instance, in the reading class a book upon animals should be used, and time taken for useful information and good advice. As "copies" for writing, facts in Natural History should be chosen, also ideas embodying justice and kindness toward useful animnls. The written exercise in spelling and composition should teach the good care that should be taken of domestic animals. In arithmetic give examples in rural economy and let the problems show in exact figures how much is gained by the humane man who is "merciful to his beast." Let these exercises illustrate humanity toward animals by that seemingly most potent of all arguments, that proper and kindly treatmentof our beasts of bur den *pays*. In Physical Geography the distribution and migrations of animals would doubtless interest. Then occasionally for an hour or an hour and a half, some special chapter in the rudiments of zoology may be familiarly discussed and explained. An invaluable aid in this work will be found in the beautifully illustrated charts published by J. W. Schermerhorn of New York, and A. H. Andrews of Chicago. Further, in the selection of books for the school library, if there be one, let such as treat of animals and inculcate their proper treatment be fairly represented.

The teacher faithfully carrying out some such plan as the foregoing, will perhaps have the satisfaction, as did one whose name now occurs to me of witnessing the voluntary formation by the pupils of a little society pledged to the practice of principles of humanity which they have thus learned. At least it seems worthy of trial and I can but hope that principles of kindness and compassion toward animals will soon be taught in every school.

University of Chicago, May 13, 1872.

SCHOOLS OF JOURNALISM.

The following in reference to what those who intend to make journalism their profession should know, and what therefore, should be taught by those institutions which aim to present a course of study preparatory to this profession, is from the lecture of Mr. Whitelaw Reid recently delivered in a course before the University of the City of New York, and published in full in the June *Scribner's*.

At the outset of any plans for professional training, it is needful to recognize the imperative limitations of the work. No school of Journalism, however elaborate or successful, is going to make Editors; just as Mr. Packard's commercial college, with all the skill and fervor it commands, cannot make Stewarts and Claflins. Nor will any such school furnish the education which Editors need. That is an acquisition to be begun in the best academies and colleges of the country, and to be sedulously pursued through all stages of the professional career. Neither will it undertake to teach shorthand writing. That is something not at all needfull to an Editor, unless he means to assume also the duties of a Reporter, and, at any rate, is best learned by practice. No more will it teach type-setting. No man ought to be in authority about a newspaper office who does not understand at least the rudiments of typography; but for these the best school is the composing room. And, to pass beyond these details, it will scarcely undertake to teach men to write, though, Heaven knows, that is sadly enough needed, as every busy Editor, yet weary with the work of putting the Hon. Elijah Peony's card into presentable shape, or translating the angry reply of Congressman Simpkins into English, will testify. No man who has not served an apprenticeship to it can imagine the hopeless way in which many even of our best educated men play havoc with their parts of speech, when first turned loose in a printing-office;—while generally they add insult to injury by grumbling at the proof-reader—of all men—for not knowing what they wanted to write, when his business was to see to it that the types printed what they did write. The great need of newspapers, however, is not good writers, but good Editors; and it is of their possible training in a School of Journalism, to be appended to the regular college course, as one of the additional features of University instruction, like the School of Mines, or Medicine, or Law, that I have been asked to speak.

Every Editor, recalling what he has sought so often, and so often in vain, in the selection of assistants, can readily suggest the outlines of the work such a special or Post-Graduate course might lay out for its students. Thus :

First. No man should think himself fit for Journalism without some adequate knowledge of the history of Political Parties in this country. Does some one say I am naming, as the first study, the very thing all Editors have already at their fingers' ends? Many doubtless have, though they learned it as Fox said he learned oratory—at the expense of his audiences. But how many know it with the thoroughness and accuracy needful for the instant and intelligent discussions which every new phase of politics demands? Go no further back than to the revival of the One Term argument. How many of the thousand able Editors from Maine to California who began, one morning, on receipt of a dispatch from New York, to tell what they thought of the principle, knew the history of Andrew Jackson's devotion to and desertion of it? Or of the attitude of the Whig party toward it? Or of the arguments for and against it in the time of the Constitutional Convention? A great many, I hope; but there was a plentiful lack of evidence of it, in the way some of them assailed what they were pleased to style a new and monstrous heresy. I am not saying it was not a heresy, or that it was not monstrous; but we should all have had more respect for the judgment that held it so, if found well enough informed to avoid discoursing also of its novelty. Yet the imperative demand of modern Journalism, and of the millions who support it, is, that if the question be sprung upon the sore pressed writer at midnight, his paper shall next morning give it fair and intelligent discussion. It is not enough that you should know where to find things, which is about all colleges generally teach; you must know things, and know them at once. Some one said of a distinguished Editor, of such real ability that he can afford to laugh at the witty injustice: "He ought to belong to a Quarterly Review or an Annual,—a Weekly is too sudden for him." For the political writer on a great daily, nothing must be too sudden,—no strategic combination of parties, no specious platform that repudiates accepted dogmas, no professed revival of ancient faith that is really the promulgation of new and revolutionary heresy. Yet how find, and how, when found, learn the facts? That is for the school that shall undertake such work to determine. Perhaps they might be partially presented in lectures. For the rest, they must be sought in innumerable Statesmen's Manuals, and Political Text Books, and fragments of Political Biography, Debates in Congress, abortive attempts at the history of the United States, newspaper files, volumes of election statistics, and all manner of other scattered material for a great unwritten work—the geatest and most splendid now awaiting that coming Historian who shall add Macaulay's brilliancy and Buckle's philosophy to more than the industry of both.

Second. To this, no young man fitting himself for Journalism should fail to add a comprehensive knowledge of the entire history of his own country, for which, fortunately, he will find the materials a little better digested and more accessible.

Third. With this should come an acquaintance with the general history of the world. The history of civilization, and of forms of government, of the trials that have overtaken each, and of the source from which its real perils came, of the development of diverse forms of civilization, and of the causes that have aided, retarded, overthrown each—the deductions of Guizot and De Tocqueville and Buckle—the recitals of Motley, Grote, Gibbon, Froude, Kinglake—whatever tells how governments

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have borne the stress of unexpected peril, and men have prospered, suffered, advanced, or lost ground in this or that condition of rule, will furnish invaluable guidance for any intelligent discussion of to-day's problems of public affairs.

Fourth. It will not, I trust, startle too much the faith of the average American that anybody can edit a newspaper to add, as another indispensable acquirement, a fair general knowledge of the fundamental principles of Common, Constitutional, and International Law. Nothing, perhaps, could add to the wisdom with which our Press has already discussed, say the Alabama Treaty, or the international obligations involved in the French Arms question, or the problems of our Reconstruction policy; but that those who come after us may not fall below the high standard thus set up, the more frequent mastery of Blackstone, and Story, and Wheaton, and similar convenient books of ready reference in editorial offices, may prove an advantage.

Fifth. There is less occasion, perhaps, to insist on the need of Political Economy, since of late there has been a singular revival of interest in such topics. But the subject is a large one, and he who has supplemented Adam Smith and Bentham and Malthus with John Stuart Mill and Say and Bastiat, has mastered Matthew Carey and Henry C. Carey, Greely, and Wayland, and Bowen, will still find the literature of the question expanding into a thousand ramifications, and leading to kindred studies as complex and imperative. To the newspaper reader, questions of Banking and Currency, of the growth and management of National Debts, of the present insane recklessness of municipal indebtedness, of taxation, of insurance and the like, perpetually present themselves; and he looks to the Editor for an elucidation of each that shall be popular in form, yet fairly abreast of the latest and best thought of the men who have made it the study of their lives.

Sixth. From the weary plash of watery argumentation on these topics that carries us nowhere, from the flubbiness of reasoning, and incoherence of premise with conclusion, and general inconsequence, who shall deliver us? Might not a sixth subject of the most careful study in a course of training for journalistic work be fitly found in some such essays on exact reasoning as should make our popular writing conform a little to the severe processes of Logic?

Seventh. Even yet the modern languages are not so firmly established in our common courses of collegiate education as to make it reasonably certain that the man of education, approaching Journalism without special preparation, will be sure to have this essential part of a journalist's equipment. Year by year these languages grow more nearly indispensable. The New York office without gentlemen on its staff reading at least French, German, and Spanish, would be preposterous; and hereafter, the Editor who enters his profession without a working knowledge of at least two of them must expect to find himself perpetually crippled. What reader of taste would not be glad if there were less occasion to add, and dwell upon, the necessity of some knowledge of English? Grant White made magazine readers merry for months, and many journalists angry for a much longer time, over his irreverent descriptions of "Newspaper English." Yet the fact remains, that of the average manuscripts received in almost any of our New York dailies, from professional or semi-professional writers, not more than one-half can be safely put in type without previous careful revison for mere errors in grammar. To use the right words and only enough of them to say what is meant, so simply and directly that the sentence goes like a bullet straight to its mark, and, having said it, to stop—that, alas! is the achievement of scarcely one in three-score. To secure some approximation to it is the daily toil and tribulation of every sore-tried office editor;—the writer who fairly reaches it has already made good his place beside the foremost.

Eighth. The time is coming in our Journalism when books will be more generally reviewed, not noticed; when paintings will be criticised and estimated, not puffed or damned; when we shall learn from our newspapers more of how the score of the opera was rendered and its feeling interpreted, with perhaps less about the looks of the Prima Donna or the clothes of the Chorus; when the new actor shall be judged by his worthy interpretation of high work, rather than praised because his friends clamor for it. In all these directions, as it seems to me, there has been immense progress in the last decade. Book publishers have about quit expecting the review of a book in a leading journal to bear proportion to the length of the advertisement. Artists comprehend that an invitation to a studio reception is not necessarily followed by an eulogium of all the works now on their easels, all the others they have painted and sold, and all the others still they mean to paint and want to sell. I know something of the state of theatrical criticism in New York; and I do not know the reputable critic on a reputable journal whom any actor or manager would dare approach with a mercenary proposition. When the field is thus fairly open for legitimate criticism, it is time that the Principles of Criticism were more thoroughly studied.

—And here this too prolix enumeration must end. I have said nothing of that comprehensive study of English Literature which every man of letters begins in his teens and closes only with his life; or of the wider acquaintance with the progress of modern scientific and metaphysical thought which our advancing Journalism demands. Not to know Darwin and McCosh, Herbert Spencer and Huxley, and *Ecce Homo*, is as bad now as, twenty-five years ago, to be ignorant of the Nueces or Rio Grande boundary, or forty years ago, to know nothing of the National Bank, and the removal of the deposits. In effect, the modern journalist, with what skill and power he may, must well-nigh adopt Bacon's resolve, and take all knowledge to be his province.

No separate school is likely now, or soon, to be founded for such a course. But more than one College or University, beside that of the City of New York, has been considering whether such studies—many of them already taught in some form or other—might not be appropriately combined into a special department, or a Post Graduate Course, which would at least command as large attendance as many of those now enjoying the support of our best institutions and the services of our ripest scholars.

MEETING OF THE NATIONAL EDUCATIONAL ASSOCIATION.

The next meeting of the National Educational Association will be held in the city of Boston, Mass., on the 6th, 7th, and 8th days of August, 1872. The forenoon and evening of each day will be occupied by the General Association, and the afternoon of each day by the four Departments. The exercises will be held in the Lowell Institute Hall and the Hall of the Institute of Technology.

General Association.

1. Methods of Moral Instruction in Public Schools, by A. D. Mayo, Cincinnatti, O.

2. The Co-Education of the sexes in Higher Institutions.

[President White of Cornell University, will present this topic, if other duties permit him to attend the meeting.]

3. Compulsory School Attendance, by Newton Bateman, State Supt. Public Instruction, Ill.

Discussion to be opened by J. P. Wickersham, State Supt. Common Schools, Pa.

4. The Examining and Certificating of Teachers, by John Swett, Assistant Supt. Schools, San Francisco, Cal.

5. System of Normal Training Schools best Adapted to the wants of our people—Report by Wm. F. Phelps, Minn., Chairman of Committee.

6. The Educational *Lessons of Statistics*, by Hon. John Eaton, Jr., National *Commissioner of Education*.

7. Drawing in the Public *School*, by Walter Smith, State Director of Art Education, *Mass.*

8. Comparison in Education, *by* John D. Philbrick, Supt. Public Schools, Boston, Mass.

Elementary Department.

Miss D. A. Lathrop, Cincinnatti, O., President.

1. Objective Teaching—Its Scope and Limit, by N. A. Calkins, Assistant Supt. Schools, New York city.

2. English Grammar in Elementary Schools, by M. A. Newell, Principal of State Normal School, Baltimore, Md.

3. Instruction in Natural Science in Elementary Schools.————.

4. Adaptation of Froebel's Educational Ideas to American Institutions, by W. N. Hailman, Louisville, Ky.

Normal Department.

C. C. Rounds, Farmington, Me., President.

1. The Proper Work of the Normal School, by J. C. Greenough, Principal State Normal School Rhode Island.

2. Professional Training in Normal Schools, by T. W. Harvey, State School Commissioner, Ohio.

3. The Normal Institute, by A. D. Williams, Principal State Normal School, Nebraska.

4. Normal Work among the Freedmen, by S. C. Armstrong, Hampton, Va.

5. Model Schools—Their Uses and their relation to Normal Training.

Department of Superintendence.

John Hancock, Cincinnatti, O., President.

1. The Extent, Methods and value of supervision in a System of Schools, by H. F. Harrington, Supt. Schools, New Bedford, Mass.

Discussion to be opened by J. L. Pickard, Supt. Schools, Chicago. Ill.

3. The Early Withdrawal of Pupils from School—Its Causes and remedies, by W. T. Harris, Supt. Schools, St. Louis.

Discussion to be opened by A. P. Stone, Principal of High School, Portland, Me.

3. Basis of Percentage of School Attendance—Reports of Committee.

Department of Higher Instruction.

D. A. Wallace, Monmouth College, Ill., President.

1 College Degrees—Report of Committee, President D. A. Wallace, chairman.

2. Greek and Latin Pronunciation—Report of Committee, Prof. H. M. Tyler, of Knox College, Ill., Chairman.

3. The Method of Teaching Physics by Laboratory Practice and Objectively, by Prof. Ed. C. Pickering, of Boston.

4. Modern Languages—Their place in the College, College Preparatory, and Scientific Preparatory Courses, by President J. B. Angell, of Michigan University.

5. How to Teach English in the High School, by Prof. F. A. March, of Lafayette College, Pa.

6. General Education as a Basis of Professional Training, by Prof. John S. Hart, of Princeton College, N. J.

The daily programme will be so arranged as to afford time for the thorough discussion of the topics of the greatest interest and importance, and each discussion will be opened by a person selected for the purpose. All who may be willing to participate in these discussions, are requested to come prepared to express well-matured opinions in the fewest possible words.

Considerable difficulty has been experienced in making satisfactory railroad arrangements, but it is expected that at least two of the through lines from the West will agree to sell round-trip tickets at reduced rates. The local committee reports that nine good hotels agree to entertain guests at reduced rates—varying from $1.50 to $3.50 a day.

S. H. White, Secretary. E. E. White, President.

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SCIENTIFIC.

Was there a Glacial Epoch during the Carboniferous Age?—Professor E. B. Andrews, Assistant Geologist of the Ohio Geological Survey, announces, in the Preliminary Report for 1870, the discovery of a large boulder of gray quartzite, half imbedded in the Nelsonville coal at Zaleski, which is very hard and is rounded and worn by friction, a result obviously produced before it was imbedded. It is of large size, measuring 17 inches in the longer and 12 inches in the shorter diameter. Adhering to it in places are portions of coal and black slate showing smooth surfaces or "slickensides," proving original movement under pressure. Prof. Andrews thinks the boulder settled into the coal while it was soft, during the period of its bituminization.

He continues: "How the boulder came there is a question not easily answered. That it came in at the time of the deposition of the sediments which constitute the shale over the coal, is doubtless true. But currents from which comparatively fine sediments are dropped, would hardly have force enough to move heavy boulders. The usual explanation of isolated boulders, such, for example, as are found over our prairies, is that they were dropped from melting icebergs or other floating ice. This explanation would require us to account for the existence of ice during the period of the productive Coal Measures. A part of the vegetation of the coal period was allied more or less closely to the modern ferns, but these, of very large size, are found chiefly in the tropics. Coal is however, found in arctic regions. This fact has been supposed to indicate a warm climate during the coal-period. There are two equally important elements in all calculations respecting the origin of coal. The first is a sufficiently warm atmosphere to secure luxuriant and abundant vegetation; the second, a climate sufficiently cool to prevent such decay of the vegetable matter as would forbid any accumulation. There is little or no accumulation of vegetable matter in the hot, damp climate of the tropics, the decay counterbalancing the growth. On the other hand, the peat vegetation accumulates in wet bogs in comparatively cold climates. Whether there may have been after the submergence of the Zaleski coal at some point more or less remote, a shore on which ice may have been formed, which floated the boulder in question, or it was brought down by river-ice from some higher and colder part of the old continent which was skirted by the coal-producing lowlands, it is impossible to say."

Electro-Chemical Copying Press.—This press, the invention of Signor Zuccato of Padua, Italy, differs but little in appearance from an ordinary copying press, and that difference lies mainly in the construction of the upper and lower beds or surfaces of the press, of which the former consists of a plate of copper and the latter of a plate of copper tinned, both on mahogany beds—the upper one being attached by lugs or clips to the solid iron press plate, and the lower one being made to slide in and out readily. These plates are placed in the ordinary way in the circuit of a battery, so that when brought into close proximity by the action of the screw, the circuit is completed and a current established over the whole of the surfaces.

But by the aid of an insulating medium—a varnish—applied to a steel plate and removable by the action of a "style" in writing, printing, drawing, etching, etc., the electric current is confined to those portions only, which are so denuded of the insulating protection; and here it is made to leave record of its passage by its continued action on the steel plate and sheets of copying paper specially prepared and damped with a solution of prussiate of potash. The electrolytic action causes the formation of the ferro-prussiate known as "Prussian blue," producing a perfect fac simile of the original manuscript or design wrought on the varnished surface of the plate.

The battery employed consists of a single cell, with zinc and carbon elements, in an actuating solution of bichromate of potash and sulphuric acid; and its positive and negative poles are connected in the usual way by spirals of insulated wire, with the upper and lower beds of the copying press. The movable steel plate on which the writing, drawing, or other design to be copied, is made, has to be thoroughly cleaned and well and evenly varnished; care also must be taken, by a firm steady pressure on the style, effectually to remove the varnish, leaving the writing, printing or other pattern in bright steel on a raised ground of varnish, affording perfect insulation everywhere else on the surface.

By placing the copying sheets efficiently damped with the prussiate solution, in any number from one to five or six, one over the other, superimposed on the prepared plate, a corresponding number of copies can be obtained, and so on almost *ad infinitum*. Thus any required number of copies can be produced with perfect facility and ease—all being fac-similes of the original. —*Mechanic's Magazine.*

Curious Phenomenon of Recurrent Vision.—Professor C. A. Young of Dartmouth College communicates a note to the *American Journal of Science* on Recurrent Vision. He says: "In the course of some experiments with a new double-plate Holtz machine, I have come upon a very curious phenomenon which I do not remember ever to have seen noticed. The machine gives easily intense Leyden jar sparks from 7 to 9 inches in length, and of most dazzling brilliance. When, in a darkened room, the eye is screened from the direct light of the spark, the illumination produced is sufficient to render everything in the apartment visible; and what is remarkable, every conspicuous object is seen *twice* at least, with an interval of a trifle less than one-quarter of a second—the first time vividly, the second time faintly; often it is seen a third, and sometimes, but only with great difficulty, even a fourth time. The appearance is precisely as if the object had been suddenly illuminated by a light at first bright, but rapidly fading to extinction, and as if, while the illumination lasted, the observer were winking as fast as possible.

I see it best by setting up in front of the machine, at a distance of eight or ten feet, a white screen having upon it a black cross with arms about three feet long and one foot wide. That the phenomenon is really subjective, and not due to a succession of sparks, is easily shown by swinging the screen from side to side. The black cross, at all the periods of visibility, occupies the same place and is apparently stationary. The same is true of a stroboscopic disc in rapid revolution; it is seen several times by each spark, but each time in the same position. There is no apparent multiplication of a moving object of any sort.

Measuring roughly the interval between the successive instants of visibility, in my own case the mean of twelve experiments gave me 0.22 sec. as the interval between the first and second seeing of the cross upon the screen; separate results varying from 0.17 to 0.30 sec. Another observer found a mean interval of 0.24 sec.

Whatever the true explanation may turn out to be, the phenomenon at least suggests the idea of a *reflection of the nervous impulse* at the nerve extremities—as if the intense impression upon the retina, after being the first time propagated to the brain, were there reflected, returned to the retina and from the retina traveling again to the brain renewed the sensation. I have ventured to call the phenomenon "recurrent vision."

It may be seen, with some difficulty, by the help of an induction coil and Leyden jar, or even by simply charging a Leyden jar with an old-fashioned electrical machine, and discharging it in a darkened room. The spark must be at least an inch in length."

The Insect-wax of China.—The *Scientific American* quotes the following account of the production of Chinese wax from Dr. D. J. Macgowan's interesting work. Chemical investigation has proved the wax to be a cerotate of ceryl.

In China, prior to the thirteenth century, beeswax was employed as a coating for candles; but about that period the white-wax insect was discovered, since which time that article has been wholly superseded by the more costly but incomparably superior product of this insect. The animal feeds on an evergreen shrub or tree (*Ligustrum Unidum*) which is found throughout Central China, from the Pacific to Thibet.

Sometimes the husbandman finds a tree which the insects themselves have reached, but the usual practice is to stock them, which is effected in spring with the nests of the insect. These are about the size of a fowl's head, and are removed by cutting off a portion of the branch by which they are attached, leaving an inch each side of the nest. The sticks with the adhering nests are soaked in unhusked rice water for a quarter of an hour, when they may be separated. When the weather is damp or cool, they may be preserved for a week; but if warm, they are to be tied to the branches of the tree to be stocked without delay, being first folded between leaves. By some, the nests are probed out of their seats in the bark of the tree without removing the branches. At this period they are particularly exposed to the attacks of birds, and require watching.

In a few days after being tied to the tree, the nests swell, and innumerable white insects the size of nits emerge and spread themselves on the branches of the tree, but soon with one accord descend towards the ground, where, if they find any grass, they take up their quarters. To prevent this, the ground beneath it is kept bare, care being taken also that their implacable enemies, the ants, have no access to the tree. Finding no congenial resting place below, they reascend and fix themselves to the lower surface of the leaves, where they remain several days, when they repair to the branches, perforating the bark to feed on the fluid within. From nits, they attain the size of lice; and having compared it to this, the most familiar to them of all insects, our Chinese authors deem further description superfluous. Early in June, they give to the trees the appearance of hoar frost, being changed into wax. Soon after this, they are scraped off, being previously sprinkled with water. If the gathering be deferred till August, they adhere too firmly to be easily removed. Those which are suffered to remain to stock trees the ensuing year secrete a purplish envelope about the last of August, which at first is no larger than a grain of rice; but, as incubation proceeds, it expands and becomes as large as a fowl's head, when the nests are transferred, in Spring, to other trees, one or more of each, according to their size and vigor, in the manner already described. In being scraped from the trees, the crude material is freed from its impurities, probably the skeletons of the insects, by spreading it on a strainer, covering a cylindrical vessel, which is placed in a cauldron of boiling water; the wax is retained in the former vessel, and, on congealing, is ready for market. The *pel-lah* or white wax, in its chemical properties, is analogous to purified beeswax and also spermaceti, but differing from both, being in my opinion an article perfectly *sui generis*. It is perfectly white, translucent, shining, not unctuous to the touch, inodorous, insipid, crumbles into a dry, inadhesive powder between the teeth, with a fibrous texture resembling felspar; melts at 100° Fahr.; insoluble in water; dissolves in essential oils, and is scarcely affected by boiling alcohol, the acids or alkalies.

The aid of analytical chemistry is needed for the proper elucidation of this most beautiful material. There can be no doubt it would prove altogether superior in the arts to purified beeswax. On extraordinary occasions, the Chinese employ it for candles and tapers. It has been supposed to be identical with the white wax of Madras; but as the Indian has been found useless in the manufacture of candles, it cannot be the same. It far excels, also, the vegetable wax of the United States from the (*Myrica Cerifera*).

Is this substance a secretion? There are Chinese who regard it as such—some representing it to be the saliva and others as the excrement of the insect. European writers take nearly the same view; but the best native authorities expressly say that this opinion is incorrect, and that the animal is changed into wax. I am inclined to think that the insect undergoes what may be styled ceraceous degeneration, its whole body being permeated by the peculiar product, in the same manner as the *coccus cacti* is by carmine. It costs at Ningpo from 22 cents to 35 cents per pound. The annual product of this humble creature in China cannot be far from 400,000 pounds, worth more than $100,000.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, JUNE 1, 1872.

THE lecturers and lecture bureaus are already beginning to make engagements for the coming season. Among the latter the Boston Lyceum Bureau of Redpath & Fall seem to present a list which is worthy of the attention of committees and secretaries. They make engagements for some sixty lecturers, besides readers, stereopticon and musical entertainments. Among the lecturers are Thomas K. Beecher, "Carlton," Rev. Robert Collyer, Fred Douglass, John B. Gough, Rev. Edward E. Hale, Rev. Gilbert Haven, lately elected Bishop of the Methodist church, Gen. Jos. R. Hawley, Col. Higginson, Joaquin Miller, Nasby, Parton, Tilton and others. Chas. Sumner has not yet decided whether he will appear this summer or not. Bret Harte will do so if his literary engagements permit. Geo. McDonald comes from England in October, and will go as far West as St. Louis or Chicago. Mark Twain is still undecided. Messrs. Redpath & Fall are the publishers of the *Lyceum Magazine*, from which all the information necessary can be obtained. The *Magazine* is published soon.

A QUITE satisfactory step towards the higher education of women is to be taken this Fall in Boston. A series of twelve lectures is to be given to women exclusively in the large hall of the Technological Institute, on Saturday afternoons, beginning October 5th. The following lecturers have already been engaged: Ralph Waldo Emerson, Phillips Brooks, Oliver Wendell Holmes, Edward P. Whipple, Wendel Phillips, George S. Hillard, James Freeman Clarke, William R. Alger, John Weiss, George William Curtis. The lectures are to be on subjects connected with English literature and are to be free. The Boston *Advertiser* says in reference to these lectures: "It is the design, we presume, of this course of free lectures to introduce a scheme of instruction for women, which shall give to them the advantages so long afforded to students in Universities. It is the beginning of a plan which will be hailed with delight wherever the full and proper education of females has been discussed. This course will no doubt be followed by others in the sciences, etc., and Boston will have the credit of starting a plan which is sure to end in *Universities for women* in various parts of the country."

THERE are some singular men in the world and the Connecticut Senate has one of them. In the bill that was passed at the last session of the Connecticut Legislature permitting the Alumni to elect certain of their number to the places formerly held by the six Senior Senators, a few, chiefly verbal amendments, were desired. Among these and as a sample of them, it may be said that it was desired to change the time of holding the election from commencement day, when other exercises occupy all the time, to the day before commencement. These amendments were before the Senate last Wednesday, and when a suspension of the rules was desired that they might be put upon their passage, Mr. Joseph G. Perkins, of Old Lyme, a man 33 years old, born in New London, a lawyer by profession, a married man, and a Republican, and who represents or misrepresents the IX district of the State, objected, because, forsooth, Ex-President Woolsey and Dr. Bacon recently declared themselves against the caucus system. He affirmed that "the Republican caucus waited one day for them to get out their manifest, and now Yale college could wait." Such a dispicable exhibition of spirit it has rarely been our privilege to chronicle. We are reminded of the lines of Juvenal:

Quippe minuti
Semper et infirmi est animi exiguique voluptas
Ultio.

THE work of art education in the State of Massachussetts, is assuming a tangible shape and form under the charge of the State Director, Mr. Walter Smith that is exceedingly gratifying and that promises well for the future. An exhibition of the works of the Drawing classes in the various cities and towns, has recently been held, and the report of the committee appointed to make awards for excellence has been published, From this we learn that the exhibition represented the results obtained in the Free Evening Drawing Schools held during the past winter in Haverhill, Lawrence, Lowell, Lynn, New Bedford, Newton, Northampton, Springfield, Taunton, Worcester, and Boston. The drawings on exhibition comprised "exercises from the blackboard, of free hand, geometrical, mechanical, isometrical, and constructional drawing in out-line and tinted; drawing in light and shade and color, of foliage, figures animal forms, machine drawing and architechtural tinting; designs for buildings, for carpets, etc.; natural objects, geometric, solids in shadow and color, and many other branches of industrial art study." There were 612 drawings exhibited, and of these 215 were free hand and 397, instrumental. Some were drawn from the blackboard, some from flat copy, and some from the object itself. Twenty-seven of the drawings were regarded as of highest merit and were designated by the word "excellent," while 89 received the award "honorable mention." The drawings from Boston were best both in number and quality, a result the committee attributed to superior advantages in objects to draw from. Some of the towns which have drawing classes had no works in the exhibition, and in some no classes have been organized.

IN the approaching exposition in celebration of the centennial of American Independence in Philadelphia, the order of arrangement of various articles to be exhibited is a matter of no small moment. A committee of which Professor Wm. P. Blake is chairman have just presented a report on this subject which has met with such approval that it has been adopted. The principles on which the classification is to be made are the following.

1. The natural products useful to man, or the basis of manufactures.
2. The manufactures and results of the combinations of these products.
3. The means and appliances by which such results have been accomplished.
4. The resultant effects of such productive activity.

Following these principles ten comprehensive divisions called departments are to be formed, and each department is to be divided into ten groups and each group into ten classes. The first department is to contain, Raw Materials—Products of the Soil, of the Mine, and of the Sea, and their Immediate Derivatives.; the second, Materials, the result of Manufacturing Processes, Chemical Compounds Manufactures and Products: the third, Textile and Felted Fabrics, including Ready-made Clothing and Costumes, &c.; the fourth, Furniture and Manufactures of General Use; the fifth, Tools, Implements, Machines, and Processes; the sixth, Apparatus and Methods of Transportation; the seventh, Apparatus and Methods for the Increase and Diffusion of Knowledge; the eighth, Civil, Mining and Military Engineering, Public Works and Architecture; the ninth, Fine Arts; and the tenth, Objects illustrating the Results of Efforts for the Improvement of the Moral and Physical Condition of Man Intellectually. The Departments are to be numbered from 1 to 10; the Groups from 1 to 100, and the Classes from 1 to 1,000.

MR. WHITELAW REID AND HIS LECTURE ON SCHOOLS OF JOURNALISM.

We give elsewhere an extract from the remarkable lecture lately given by Mr. Whitelaw Reid of the New York *Tribune* on "Schools of Journalism" and printed in *Scribner's Monthly* for June. We were in hopes that this lecture would be repeated in New Haven where so many young men of liberal education have their eyes fixed upon the profession of the editor; but the power of the press has triumphed again, and we receive through the printed page, instead of by the living voice, an address which the Senior class of every American college may well ponder and remember.

When Mr. Beecher, a few weeks ago, stood before that crowded assembly in the Marquand Chapel and told in his most frank and confidential tones, the success of oratorical power, it was obviously a rare opportunity for beginners to learn from a master the principals and methods of persuasion. Such lectures to young men are quickening and inspiring in a high degree,—their greatest service being in showing how to use and develop the gifts of nature and the acquirements of learning. Mr. Whitelaw Reid has rendered a kindred service by his discourse on the functions of the newspaper and the profession of a journalist. Whatever views may be held in respect to the present political situation, everybody acknowledges the power of the *Tribune*. Doubtless the national fame of Horace Greeley, the office traditions of a journal so long continued under one general management, the highly trained staff of assistants, the wider circle of correspondents and occasional contributors, the exceptio nal merit of many of the reviews and book notices all combine to give vigor and influence to the paper; but all this would be of little value were it not for the head that suggests, attracts, directs, arranges, condenses, sifts and balances the innumerable contributions of news and comments upon news which flow to such a paper.

Mr. Reid, if we are correctly informed, has been for some time past such a manager in the *Tribune*. We have never had the pleasure of seeing him, nor of knowing in detail the inside aspects of the *Tribune* office; but in common with numerous other readers we have been constantly impressed with the skill of the editorial management which public rumor attributes to him. News from every quarter of the globe, conveniently arranged, clearly stated, in attractive language, rightly proportioned, and fairly commented on, with a love of truth and a freedom from unnecessary personalities, distinguish the better journals of to day from the "Little Pedlington Items" and the "Great Tom-Tom" of former years. Whatever share he may have had in securing this recognition of the right ideal of the newspaper, and whatever share may be attributed to the concurrence of many social forces, we leave to others to decide. Our reason for alluding to the subject is to arrest the attention of young men in college to the lofty conceptions of editorial work which this lecture on Journalism sets forth. Readers as well as writers may well ponder and accept his admirable principles.

FEWER HONORARY DEGREES.

The season of college commencements is approaching—indeed some have already been held, and with the approach of this season comes the beginning of the annual abundant crop of honorary degrees. This crop each year is large and it seems to be becoming larger without maintaining a quality commensurate with the dignity and aim of the practice. Indeed there seems to be a growing evil in this regard. Honorary degrees are conferrd seemingly without any respect to the fitness or worth of the recipient, and with such prodigality that many of those who are really worthy of the honor and to whom it should be a title worth the wearing, either refuse it outright, or never append it to their names.

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This condition of things is an abuse more prevalent at present than formerly. The custom of conferring the degrees which are now usually given as honorary titles, was in its inception wholly different from the present custom. The degrees were only conferred on such as had passed through certain courses of study, or had shown themselves eminent in knowledge of law or theology. Thus the degrees LL.D. was conferred only on those who had mastered both the canon and the civil law. And so with other degrees. They all represented genuine acquisitions, and real study, applied in the sphere where the degree was sought. Later, however, the custom arose of conferring these degrees as titles of honor, and this custom has continued to the present, where, unless a reform is inaugurated, it seems likely to be doomed to pass away entirely, for it can hardly be possible that a custom which has lost its vitality and whose fruits are coming to be despised by the best of those for whom it is designed, can long continue to exist.

That there is a real abuse in the conferring of honorary degrees will be entirely evident to all who will take pains to inquire into the worthiness to possess such such a title of some D.D., LL.D., or even A. M. of their acquaintance. The mode of operation is simple enough. Some principal of an academy who has grown into his position after a few years in the district school and academy, perhaps, supplemented by some private study, and who, withal is a very worthy man and one, perhaps, every way competent for the position which he fills—some such one we say, thinks his name would look better in the Annual Prospectus with an A. M. after it, or his friends think so for him, and accordingly the necessary money and influence is used and the title granted. The college pockets a few dollars, and gratifies a number of friends, and so gains friends, but unfortunately at the loss of dignity and with a sacrifice of true scholarship. In all such cases the degreee of A. M. represents less real culture than that of A. B. while nominally the former is a step higher than the latter. And the effect of such degradation of the insignia of scholarship, upon those who are plodding through the four years necessary to obtain the lower degree must be anything but encouraging.

Take another case of a still higher degree. And in these cases the colleges and the applicants seem equally despicable. A college, weak perhaps, not well known, and struggling for recognition and existence, thinks it would add to its reputation if it should confer upon certain men of eminence in certain spheres the degree of D.D., or LL.D., which accordingly is done. Or again, the college receives an endowment from some liberal minded man and endeavors to requite in a measure by giving an honorary title. Or still once more, unworthy men as in the case of the degrees of A.M., receive the highest honors of a college through their own machinations or the influence of their friends. In many of these cases, it is true, the temptation of the college is strong. It costs the college little to give the honor and by so doing it may secure the aid of powerful friends. And in the case of an endowment, it surely is laudable to requite a benefit received. Considering the value of the endowment in any given case, and comparing it with the meagre cost to the institution of an honorary degree, and it would seem that few bodies of men could resist their generous impulses to honor a benefactor. And again when the friends of an institution urge the granting of honors upon their personal friends it is hard to resist. But we cannot but regard that it is listening to such considerations as these that is so rapidly bringing honorary degrees into disrepute.

The truth is this readiness in bestowing these titles has allowed them to fall upon very many unworthy men. There are D.D's., in the country who despise sound culture, whose title Doctor, if the word may be supposed to retain any of the meaning which belonged to it in its original language, is a misnomer of the most shameful kind. We have in mind a D.D., whose language is often faulty, whose culture is in inverse proportion to his conceit, and whose claim to the title if measured by the calibre of his sermons, is only less than his candor. It may be that this is an exceptional case, and such we hope it is; but the fact that such men do get such degrees is sufficient cause for raising a warning voice against too great laxity in this respect. But the fact that unworthy men are honored is not the only evil connected with this subject. We have already adverted once or twice to the fact that those who are really worthy to be thus honored either refuse it outright, or fail to append the honorary letters to their names. Not long since in our own experience, a D.D., and one every way worthy of such a title, refused to have the letters appear in print in connection with his name. And we know of others who are equally sensitive. Now it may be that natural modesty is the cause of some of these refusals, and that the same feeling may prompt a man to abstain from using his title in connection with his name. But our observation has led to the belief that in most cases this action is due to a feeling that the title has become so common and has been bestowed upon so many unworthy persons, that it is no longer an honor to receive the distinction. And we doubt not that in some cases the degree is regarded as positively worthless, an opinion which has at least some basis in the facts of the case.

And this leads us to a consideration that it would seem should have some weight with the various colleges of the country. It cannot be disputed, we think that abstractly the power of conferring honorary degrees is an element of strength in collegiate institutions. It is a means, and within proper limits a perfectly laudable one, of attaining friends and of repaying obligations. But we submit to the colleges of the country whether by their present course they are not destroying their own power. By conferring their degrees upon unworthy men, and by conferring so many, are they not depreciating the value of the thing given so much that it is no longer desired? And are they not by this means foolishly throwing away their strength and continually crippling their resources? It seems to us that such is the case. Even those whose only claim to a degree is the fact that they have given money to a college or that they have influential friends in its councils will cease to care for it, as soon as it is despised by those who are really worthy to enjoy it. The thought that it places them on a level with those who are really scholars and are eminent in learning, is what gives an honorary degree its value in the eyes of such men. But as we have said several times those who are really worthy are beginning to care less for such distinctions. And thus their value is passing away and with it all the power that the colleges have ever had in this direction.

In view of these considerations some kind of a reform seems absolutely necessary. It is suggested by some that no reform is possible as long as so many institutions have the power of conferring honorary degrees. But we still have faith in the good sense of those who are at the head of the collegiate institutions of the country. And it seems to us that a little reflection must convince them of the folly of conferring so many honorary degrees. Already we are happy to say there are signs of steps in the right direction. Harvard will confer the degree of A. M., after the commencement of 1872, only upon such applicants as shall have passed a prescribed examination. And the same thing is to be done at Miami University. And in reference to the still higher degrees it is to be observed that the older and more renowned institutions have for a number of years exercised a good deal of care in their selection of candidates for their honors. The refusal of degrees is also an encouraging sign. Yet with all these favorable considerations we cannot believe that the custom will continue to exist unless there is such a curtailing of the number of degrees conferred and greater care in the selection of candidates, as shall reduce the annual crop by at least nine-tenths.

MAURICE ON THE LORD'S PRAYER*.

BY PROFESSOR J. M. HOPPIN.

The American publishers who have brought out this little volume have opened a rich vein. We hope it may be the precursor of others from the same source. Not that we think Maurice's writings are of unmixed good. To breathe the suspicion that he was consciously false to Christian truth would be to any candid mind that thoroughly knows Maurice a cruel heresy in itself, for he was a humble, ardent, devoted student of truth and willing to follow whithersoever the Spirit of Christ led him; but from the peculiarities of his mind, from his tendency to look with leniency upon error from the desire to do good to the errorist by letting himself slide easily into sympathy with him, and from the ambiguously suggestive though eloquent character of his writings which often seem to lean to opinions that perhaps are far from the author's real meaning, he has doubtless thrown open the door to loose and mischievous thinking. But he was a true believer if there ever was one. His theological and philosophical writings, we think, owing to their sympathetic character which springs from the intuitional rather than the logical side of the mind, and to this poetic instinct which often flashes light upon the darkest problems, form an excellent corrective to our solid, self-reliant, and in the main noble Puritan theology, and would hurt no sound-minded theologian of the New England type, while they might do him a vast deal of good.

Maurice was such a sincere thinker that he infuses his personality into all that he writes. It is not necessary to read all his works, which are legion, to come at some true conception of his theological views. Even in a brief treatise like this upon the Lord's Prayer we find many of his peculiarities standing out in bold relief, and especially his intensely spiritualizing tendency, his desire to come at the spirit of a passage, to discover the underlying idea which goes beyond the mere accuracies or niceties of philological interpretation. We find also in this treatise his inclination to take a stand outside of truth in order to reconcile to minds outside the difficulties of Christian faith with reason. His tone is charitable and apologetic. He is anxious for the credit of Christianity with all men. He would show all men, even stoutest opposers, the divine largeness of the Christian system. He is in his boldest utterances not a destructive like Theodore Parker, but a believer, a constructive of the most comprehensive order going so far as to find good in everything, in evil itself. These rare qualities of breadth, sympathy and sweetness, are seen in all their attractiveness in this beautifnl little treatise. The subject itself is congenial. For a mind like Maurice's, searching for the utmost freedom, aspiring to the highest views of spiritual things, soaring like a pure and childlike spirit into the heights and depths of God's nature, the great ideas of the Divine Fatherhood, of the Divine Forgiveness, of the Kingdom of God, formed a subject of thought where his whole genius and faith had free course. Here at once the main peculiarity of his religious system comes out to view. His theology centers itself in God, not in man. Commenting upon the second clause of the Lord's Prayer "Hallowed be Thy name" he says: "All superstition, all idolatry, has its root in the belief that God is made in our image, not we in his; the most prevalent assumption of the modern as of the ancient sophists is, that man is the measure of all things; that there is nothing great or holy which is not his creation." "Brethren, in this difference lies, I believe, the great contrast between those systems of theological doctrine and practice which have been shaped out by the subtelty of divines, in accor-

*_The Lord's Prayer_. Nine Sermons, preached in the College of Lincoln's Inn. By Frederick Denison Maurice, late Professor of Casuistry and Moral Philosophy in the University of Cambridge. New York: Hurd & Houghton. Cambridge: Riverside Press, 1872. Received through C. C. Chatfield & Co., New Haven.

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dance with cravings of disciples, and that teaching which begins from God, which never lowers itself to the base and selfish thoughts of man, and which therefore, is able to satisfy all that is real in man as nothing else can. Ask the systematiser what that revelation is which the Bible records; he will tell you that it is the announcement of the duty which man owes to his Maker for the good things which he enjoys upon earth, and of a scheme of redemption by which he may obtain pardon for his sins, and higher blessings hereafter. Ask the Apostles, or our Lord Himself, what that revelation is, and they say it is the revelation of a Father whom men were feeling after and could not find, and who at length declared Himself to them in His well beloved Son."

In the revelation of the love of God in Christ does he plant himself. In one of his other books he thus writes: "I have learned to say to myself, Take away the love of God, and you take away everything. They may build their theology upon certain deductions of the intellect or upon certain individual consciousnesses; mine rests upon the eternal love which overlooks all the universe." The struggle, the successful struggle, of the soul to know this Father, to find and come at this loving Person, to be assured from experience of the love of this Divine One who cares for the soul, and who sympathizes with it even in its sins as a father sympathizes with an erring child, and who forgives its sins through Christ who has taken its nature to take away its sins, this is faith. This is the purifying knowledge of God wrought in us by His Spirit. This is God in us. "Here in this inner region, in this root of man's being, He is still subduing His enemies, He is conducting His mysterious education. To that which He cultivates within us, He promises the great reward, the knowledge of Him who is, and was, and is to come."

As a corollary of this, Maurice, while he has deep and pungent views of sin, does not, as some theologians do, begin with sin as a primary idea. He does not place sin at the bottom, he does not even make it the first fact to be considered, or to be brought to the consciousness of the sinner himself; but he makes God the first as well as the last, the bottom as well as the top of all Christian theology. "They say 'Christianity declares to us the exceeding sinfulness of the human heart and will. There is the root of all the confusions and miseries of the world.' Christianity does no doubt declare to us, or rather of us, the exceeding sinfulness of man's heart. But it comes not proclaiming sin, but rather proclaiming a remedy for it. Do we believe the remedy to be effectual? If not, in what sense do we call ourselves Christians." And again: "We have thought, it seems to us, that our chief business was to persuade and conjure and argue and frighten men into a notion and feeling of their responsibilities; whereas our chief business is, assuredly, to *proclaim the name of God;* to set that before our fellow-creatures in its fulness and reality; *so* to convince them of their sin; *so* to teach them how to be delivered from it." And again, more pointedly: "Other portions of the Lord's Prayer have led me to remark that there is a fearful tendency in us all, which has infused itself most mischievously into our theology, to look first to our necessity or misery, only afterward at our relation to God, and at his nature. The last are made dependent upon the former. We are conscious of a derangement in our condition: simply in reference to this derangement do we contemplate Him who we hope may reform it. We have just been tracing this process in heathenism. A mischief is felt; if there is a mischief there must be a deliverer. Undoubtedly the conscience bears this witness, and it is a right one. But the qualities of the deliverer are determined by the character or locality of that which is to be redressed, or by the habits of those who are suffering from it. From this heathenish habit of mind the Lord's Prayer is the great preserver. *Say first* "*Our Father.*" This relation is fixed, established, certain. It existed in Christ before all worlds; it was manifested when He came in the flesh."

Whether this be true or false, the fact that much of our theology really begins on a lower level with man, and with man's mind and with man's sin, and thus reasons up to God and His redemption, instead of beginning at once with God and His redeeming love in Christ—this is an undeniable fact. Truly it is of importance *where our theology begins*, whether at the infinite fountain-head or the finite corrupted stream; whether it starts in man's need or God's fulness. We do not argue for the truth of Maurice's view, but the assuming either of these views *might* make the difference between a hard and an animating theology. In Syria you may stand upon a mountain ridge and look down upon the lifeless wilderness among whose wearisome sands and rocks the Children of Israel wandered and struggled with temptations and sins forty years, then by merely turning your head in the opposite direction the Land of Promise with its green valleys lies stretched out to view beneath you. A simple change of view may sometimes make the entire difference between discouragement and hope, between the human and the divine aspect of truth. Strongly as we would condemn as false any system of Christian theology which leaves out of view the great fact of human sin and its exceeding heinousness—so deep a heinousness that it forms the reason of the redemptive work of Christ—we still recognize some important truth in Maurice's idea that we should not make sin the starting-point in theology, but rather Him whom to wander from and to disobey *is* to sin, by the knowledge of whom we learn to apprehend the sinfulness of our hearts, by whose love we are brought back from sinning and redeemed to be what we are made to be, the true children of God created in His image to love and serve Him.

There are other views in Maurice's theology with which we cannot at all agree, wherein we think he is fanciful and over-refining, wherein he is weak and cloudy; and not only weak and cloudy but he is absolutely wrong and tends to lead others wrong,—into superficial views of responsibity, of sin and of redemption. Yet Maurice's wrong-thinking (we must say it for so great is our admiration for the man) is of a noble sort and is the fruit of a constantly eager stretching forth of every energy of the mind to climb higher, sometimes failing, sometimes grasping false supports, but ever yearning, aspiring after the freest and purest views of God, the best good of man. But it is time we should attempt to present a succinct analysis of the discourses on the Lord's Prayer, not commenting on the truth or error of their views.

He remarks in opening that "The Paternoster is not, as some fancy, the easiest, most natural, of all devout utterances. It may be committed to memory quickly, but it is slowly learnt by heart." In Sermon I. he treats of the words "Our Father which art in Heaven." The first word "Our" comprehends all men. One who utters it must take in his fellow-men, and if the feeling of brotherhood toward all and each is wanting, it is not honestly spoken. "Father" also is a universal word for all. "Does any one answer, that God is called the Father of our spirits, that He is said to beget us to a new life, that as natural men we are not his *children*, that we are his creatures? All this is true and most important; and it is precisely what we assert, when we say that God has redeemed mankind in Christ. We mean that He has not left us to be fleshly creatures, to be animals, as we are naturally inclined to be, and would be altogether, if He were not upholding us; we mean that He has owned us as spiritual creatures, has claimed us in that character to be His servants and children, has given us His spirit. We say that when a man arises and goes to his Father, he renounces his vile, selfish, exclusive life, and takes up that human privilege which God has given him in Christ; he enters upon his state as a man when he confesses God as his Father," "which art in Heaven." Not only does this mean that Heaven has stooped to earth in Christ, that divine and invisible things are made knowable and visible, but that "there is One Being, eternal, immortal, invisible, to whom all may look up together, into whose presence a way is opened for all, whose presence is a refuge from the confusions, perplexities, and divisions of the world; that home which the spirits of men were ever seeking, and could not find till He, who had borne their sorrows and died their death, entered within the vail, having obtained eternal redemption for them, till he bade them sit with Him in heavenly places." Thus Christ brings us to our Father in heaven.

Sermon II., is upon the phrase "Hallowed be Thy name." Men have striven "to know the name of Him who was wrestling with them; to know whether he was one who cared for them; whether they had a real or imaginary Master; whether God is a preserver floating in the air or a person who can be loved." Jesus hallowed that name by keeping it undefiled from the world; so should his disciples. They should "yield themselves up in deed and truth to the Spirit of God, that we like our Lord may glorify his name upon earth."

Sermon III. is on the Kingdom of God—"Thy Kingdom come." This is not a future but an eternal kingdom. It is not the mere renovation of societies and civil order, but it is that the King of kings and Lord of lords may reign over our spirits and souls and bodies, which are His, and which He has redeemed.

Sermon IV. "Thy will be done, as in Heaven, so in Earth." "The *name* denotes that which a person is in himself, his own character. This is an object of contemplation, it is to be hallowed. A *will* imports energy going forth; it points to action, to effect; it is to be done?" The will of God we are not to be ignorant of; it is this He has revealed in His Son, in His word, in ourselves. It is not one of the secrets which he withholds from us His children. We are bound to know that will, and not only not to oppose its doing but ourselves to do it, let it cut clean through all selfishness and life. The will of God in us demands obedience and how can it be done *except in life and practice.* We must not only acknowledge the absolute goodness of that will, which was manifested in act by the only begotten Son, the heavenly Lord, but we ourselves must make it that inexorable standard of action, and however badly we succeed we must cling to the prayer and the striving "Thy will be done."

Sermon V. "Give us this day our daily bread." We should dare to look upon God as Giver rather even than Exactor. He feeds our souls as well as our bodies. It is in this way, in this sense, of His being the great Giver, that He really has His highest claim upon our obedience; and this is a daily unceasing claim.

Sermon VI. "Forgive us our debts as we forgive our debtors." This is also a universal prayer; when prayed truly we pray not for ourselves alone but for our fellow-men, who are also debtors like ourselves, that is, sinners, who have incurred responsibility to God, as well as to men. The clause "as we forgive our debtors" is not to be taken as a *condition* or *measure* of our own forgiveness, for this would narrow down the infinite forgiveness of God, but it implies a forgiveness from the heart—the very spirit of forgiveness, the spirit of *love*, toward all men, toward all who have offended us.

VII. "And lead us not into temptation." This word should not be changed into "trials," it means more than simply "troubles." It means conditions which involve the opportunity of doing right or wrong, in which the good and evil is set before us, but where there is a strong bias to the evil. God is continually suffering us, as He did the Saviour, to stand in some circumstance of temptation, in riches, or poverty, or pleasure, or power—we are, in fact, all the subjects of temptation—but like Christ, who is our standard, we should pray for strength to resist temptation, to trust ever in God, so as not to be led into temptation, or brought under its power, or overcome in our human weakness by it and thus fall into deadly sin. Thus praying, thus overcoming, we assist all others to resist temptation.

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VIII. "Deliver us from evil." This involves the questions What is evil? Can we be delivered from it? "When we are able to look upon evil not as the regular normal state of the universe, but as absolutely at variance with the character of its Author, with His constitution of it, with the Spirit which He has given to us, then, we can pray, attaching some real significance to the language, Deliver us from evil." The hiding of God and of His perfect law of the universe, is evil. Christ shows us again the Father ruling all, dwelling in us. We are not wholly delivered over to the power of evil; we may thus pray to be delivered from evil. "See, then, what a restorative, regenerative power lies in this prayer! See what need there was that the Son of God should come from the bosom of the Father, to make men know that they were not orphans, to show how they might be in fact, and not merely in idea, children! Therefore we pray confidently 'Deliver us from evil,' knowing assuredly that we are praying to be set free from that to which the will of the Creator is opposed, against which all the power of the universe is engaged; that which all natural things doing Him quiet homage, are punishing; that against which all voluntary creatures by the law of their being are pledged to cooperate." Evil has its central root in selfishness. Christ delivers us from this. "He by giving up Himself in every thought and act, He by presenting Himself as the one great sacrifice to the Father, makes us to perceive that the setting up of self, the worship of self, is the evil from which all others flow, from which we are to pray "Deliver us." Here is the Gospel mystery both of Sacrifice and of Redemption.

Sermon IX. "For Thine is the Kingdom, and the Power, and the Glory, forever, Amen." "We are bound to affirm that a Fatherly kingdom is established in the world; that to be members of it is our highest title, and that the beggars of the land share it with us; that in it the chief of all is the servant of all; that under Him all may in their respective spheres reign according to this law; that all ranks and orders stand upon this tenure, and are preserved or overturned by their honor or contempt of it; that all offices, the highest or lowest, have hence their responsibility and dignity; that this kingdom has its highest throne over the human will, and its secret impulses and determinations; that it reaches the most trifling acts and words; that not one of the suffering myriads in a crowded city is forgotten by Him who is its ruler, any more than one of the spirits of just men made perfect; that when all the subordinate vassals of the kingdom shall confess their dependence upon Him, shall know that He is, and shall feel towards those who are beneath them and to one another as He feels towards them, then His kingdom which *is now* will indeed have come in power."

There are many things we could controvert in these lectures, but we are led by them to see that the Lord's Prayer is the epitome of religion. That which we repeat often as a form, as a kind of devotional charm, as a mechanical utterance, comprehends time and eternity, life and death, man and God, in its brief compass, even as a drop of dew is said to reflect the whole cope of heaven.

LITERARY.

Periodicals.—With the June number the *Atlantic* concludes its 29th volume and announces that "Septimus Felton" will be concluded in August, and that "The Poet at the Breakfast Table," "The Comedy of Terrors," and "The Life of Jefferson" will be continued through the year. It also announces for future numbers a paper by Advocate General Bolles, on an obscure phase of post rebellion history, literary papers by E. C. Stedman, stories by J. W. DeForest, Siamese stories by Mrs. Leonowens, a paper on Mythology by John Fiske, poems by Lowell, Whittier and J. T. Trowbridge, etc. In the present number all the serials are continued and W. M. Baker contributes "Red Reminisences of the Southwest"—a semi-biography of the roughs of that region, and Wilson Flagg has a paper on "Simples and Simplers," devoted to rescuing from oblivion the good dames and their herds who used to care for the sick in olden times. In Art we have an account of "The Dutch and Flemish pictures of New York." There is also poetry by Bayard Taylor, W. W. Young, Celia Thaxter, Anna B. Averill, and A. W.

Scribner's for June opens with a long and profusely illustrated article by James Richardson, the second, on "Traveling by Telegraph, Northward to Niagara." The space passed over is from Harrisburg to the Falls, and not only the illustrations but the descriptions are fine, and faithfully done. Another illustrated article is "The City of Warwick," by H. S. Digby. Of Whitelaw Reid's lecture on Journalism we have given our opinion in an other column. In an article entitled "The Advance of Population in the United States." Professor J. E. Hilgard, explains with maps, tables, etc., his theory of the centre of gravity of population. Those interested in dialects will be pleased with "Surly Tim's Trouble," a story by Fannie E. Hodgson, in the Lancashire tongue. The usual serials are continued and there are also "An English Art Reformer," Ford Mad Brown, by W. J. Stillman, and several pieces of poetry, and the several departments of "Topics of the Time," "The Old Cabinet," etc.

With the June number Harper's enters upon its forty-fifth volume, and announces among other attractions for the future, a series of papers by Emilio Castelar, the eloquent Spanish Statesman. Illustrated papers are also promised by Charles Nordhoff, Porte Crayon, M.D. Conway, Junius Henri Browne and others. The present number opens with an article by Junius Henri Browne on "The German Gambling Spas." The other illustrated articles are "The Mountains," a third paper by Porte Crayon; "The Hebrew Exodus" by A. H. Gurnesy; and "California; what to see there and how to see it," a second article by Charles Nordhoff. Emilio Castelar's article in this number is devoted to a consideration of "The Latin Peoples." These articles are to be translated by John Hay, and their general title is "The Republican Movement in Europe." "The Golden Lion of Granpere" and "Old Kensington" are continued and we have in addition "One Night in Venice," a story of passionate love and its ending by Mrs. Caroline A. Merighi; "John Wesley and his Times," by Eugene Lawrence; "Aunt Pen's Funeral" by Mrs. Harriet Prescott Spofford, etc. The "Drawer" is unusually amusing.

An article which all college men should read is the one in the June *Galaxy* on "Modern Languages in the American College" in which the question whether the French and German languages should take the place of the Greek and Latin in the college curriculum, is discussed. The name of the author is not given, but he takes the ground that neither should exclude the other, but that the modern languages should be studied in early youth and the ancient, later in the preparatory course of students going to college. We may present a portion of this article in our next issue. Some of the remaining articles in this number are "Sir Charles Dilke and the English Republicans" by Justin McCarthy, part second and the conclusion of "Faust" by Ivan Turgenief.; "The Women Movement in Wyoming" by Edward M. Lee who writes whereof he knows, having been in office there when the franchise was conferred; and "The English at Home" by Albert Rhodes. The serials are continued and there are also several stories and bits of poetry.

Mr. Edward Whympel's "Scrambles among the Alps" is concluded in the June number of *Lippincott's*. To it there are added a few notes explanatory and descriptive. There is also an illustrated article on "Constantinople." 'The Strange Adventures of a Phaeton' progresses through three chapters; "Aytoun" through two, and the "Private Art Collections of Philadelphia," reaches a third article which is devoted to Mr. Samuel B. Fale's collection. Kate Hillard gives a biographical sketch of "Pierre Ronsard;" an unknown author describes "A Draft on the Bank of Spain," and Charles K. Tuckerman tells of "The Great Idea," which is that the modern Greek is to regenerate the East. Mr. Reginald Wynford contributes also an interesting account of the "London Clubs." There are besides, two poems "Always," a Florida lyric, by W. W. Harney; and "Carcassonne" from the French by J. R. Thompson, and in addition the usual "Monthly Gossip and Reviews."

Old and New completes its fifth volume with the June number. "Six of One by Half a Dozen of the Other" is concluded and there are also an interesting account of "The Bramo Somaj," a sort of Hindoo Protestant society, and an article on "Living in Germany" by Francis Tiffany which gives considerable information. There are also other articles and the usual departments. Mr. Hale's attention in "*Old and New*" is devoted to the Alabama claims and "Our Case."

The *Overland* for June presents a good variety of articles and is an interesting number. The leading article is "Sheep Farming in California," and it is followed by "Kodiak and Southern Alaska;" the third article on "The Northern California Indians." and an interesting article on "Pavy's Expedition to the North Pole." "Woven Threads on Goodness" is a string of Chinese Proverbs. There are three stories "Patty Dree, Schoolmarm," "It occured at Tucson," and "The Omens." Under the head "An American Art" the electrotype and its application to printing purposes is described.

The four weekly numbers of *Appleton's Journal* from May 4th, to May 25th, forming the monthly part for May presents an amount and variety of information that is not surpassed by many of the more pretentious monthlys. The illustrations are finely executed and the reading matter conveys practical information in an unexceptional style. "The Scenes in the Yellowstone Valley" is well worthy of attention.

Spectrum Analysis Explained.—We are in receipt of a courteous note from Mr. Dana Estes, in which he points out the fact that the sentence quoted from No. 3 of the Half Hour Recreations in our last, was taken from Schellen. We were in error, therefore, in attributing its authorship to Mr. Estes.

Barnes' Notes.*—In these two volumes, the Publishers have given to the public a new edition of Dr. Barnes' Notes upon the Epistles named, in form similar to the later editions of the Notes upon the Gospels and Acts. The present edition is issued under charge of Dr. Barnes' executors, having been corrected by him just previous to his death. A lengthy criticism upon the Notes is unnecessary. They have long received the favorable judgment of those for whom they were especially prepared—ordinary students and readers of the Bible. Few Biblical critics have reached a wider audience and none perchance have done more to stimulate the study of the Bible among the common people of this country and England. All will welcome this edition which bears traces of the latest efforts of their distinguished author. The books are neatly gotten up and the style is very satisfactory. Without doubt they will enjoy a steady sale for some time to come.

*Notes Explanatory and Practical, on the First Epistle of Paul to the Corinthians.

Notes Explanatory and Practical on the Second Epistle to the Corinthians and the Epistle to the Galatians.

Revised Editions. Rev. Albert Barnes, D. D. Harper & Bros., Publishers.

COLLEGE COMMENCEMENTS.

The following College Commencements will be held during the week to come. The list is made out partly from catalogues in our office and partly from the table of collegiate institutions in the last Report of Commissioner Eaton, Commissioner of Education:

College of St. Augustine, Benicia, Cal., Thursday, June 6.
St. Ignatius College, San Francisco, Cal., Wednesday, June 5.

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Santa Clara College, Santa Clara, Cal., Tuesday, June 4.
Eureka College, Eureka, Ill., Wednesday, June 5.
Abingdon College, Abingdon, Ill., Thursday, June 6.
Illinois College, Jacksonville, Ill., Thursday, June 6.
Illinois Industrial University, Urbana. Ill., Friday, June 7.
Brookville College, Brookville, Ind., Friday, June 7.
Jefferson City College, Jefferson City, Mo., Wednesday, June 5.
William Jewell College, Liberty, Mo., Wednesday, June 5.
Emory and Henry College, Emory, Va., Wednesday. June 5,

The following law schools will also hold their Commencements during the coming week:

Law Department of McKendree College, Lebanon, Ill., Thursday, June 6.

Law Department of Baylor University, Independence. Texas Wednesday, June 5.

COLLEGE RECORD.

Union College (Schenectady, N. Y.)—The Commencement exercises of Union College will open in Schenectady on Sunday, June 23, with the anniversary sermon. On Monday, June 24, at 7:30 P. M., there will be prize speaking by members of the Junior and Sophomore classes. On Tuesday, June 25 (Alumni Day), at 8 A. M., the Phi Beta Kappa Society will hold their annual meeting at No. 4 South College. At 10 A. M. the Alumni Association will hold their business meeting at No. 16 North College. At this meeting the Alumni will elect one of their number as a member of the Board of Trustees for the term of four years. At 1:30 P. M. the Association will hold their annual reunion in the College chapel. At 3 P. M. the Class Day exercises of the graduating class will be held in the College grove. On Wednesday, June 26, at 10 A. M., the inauguration of the President will take place, to be followed by the Commencement exercises. Mr. Wm. H. Seward has consented to deliver the response in behalf of the Alumni at the inauguration. The procession will move from the College chapel at 9:30 A. M. All except the Class Day exercises will be held in the Presbyterian church. In accordance with the recommendation of the Alumni Association, the classes of 1812, 1822, 1832 1842, 1852 and 1862 will this year hold their decennial re unions. Members of these classes expecting to be present are requested to give early notice of such intention to the chairman of the Faculty Committee. Those who may be unable to attend are requested to send notes of their lives since leaving college.

Massachusetts College of Pharmacy, (Boston, Mass.)—The commencement exercises of this institution were held Wednesday evening, May 22nd, in Horticultural Hall, in the presence of a large number of ladies and gentlemen. The Germania band furnished music for the occasion. Introductory remarks were made by Professor George F. H. Markoe, who spoke of the difficulty and honor of the profession represented by the college and its alumni. The course of instruction is divided into three departments: Materia medica and botany; chemistry, and the theory and practice of pharmacy. Lectures begin in October and last until April. To acquire the diploma of the institution the student is not only obliged to attend two courses at the college, but must have passed an apprenticeship of four years' duration with some practical pharmacist. Before graduation he must prepare a written thesis on some question or investigation of his own pertinent to his studies. The school has been in existence for five years, and has afforded instruction to some two hundred students. The diploma of the college and the degree of graduate in pharmacy were conferred by President Colcord upon the following young men: Edward C. Boyden, John D. Knowlton, Edgar L. Patch, Charles E. Tappan, James T. Wright, Nahum Washburn jr. As a testimonial from the association of alumni to the most proficient student in the class, Professor Cyrus M. Tracy presented, in behalf of the alumni, a valuable pair of chemist's balances to Mr. Edgar L. Patch, who briefly returned thanks for the same. A valedictory address of some length was then pronounced by Professor James F. Babcock. The annual address was delivered by the Rev. E. C. Bolles, of Salem.

Harvard College, (Boston, Mass.)—From the Boston Daily *Globe* we learn that an adjourned meeting of the Harvard Board of Oversers was held Wednesday May 23d.

After the reading of the records, the president of the university announced that Professor Parkman had resigned his place as professor of horticulture; and he presented a vote of the corporation electing Charles Sprague Sargent to fill the vacancy, and the same was referred to Messrs. James Lawrence, J. Ingersoll Bowditch and Stephen Salisbury. The president also presented votes of the corporation making the following aqpointments, in which the board concurred by ballot, viz.: Frederick I. Knight, M. D., Instructor in Auscultation and Percussion and Laryngoscopy; J. C. Warren, M. D., Instructor in Surgery; Edward A. Bogue, M. D., Lecturer on Dental Pathology and Therapeutics in the Dental School for the ensuing academic year; Ira A. Salmon, D. D. S., Lecturer on Operative Dentistry in the Dental School for the ensuing academic year. Lecturers in the Medical School for the ensuing academic year —Henry K. Oliver, M. D., on Larnygoscopy; Francis B. Greenough, M. D., on Syphilis; Clarence J. Blake, M. D., on Otology; J. Orne Green, M. D., on Otology; James J. Putnam, M. D., on the application of electricity to the treatment of diseases of the nervous system. University lectures for the ensuing academic year: Samuel Eliot, on the history of the nineteenth century; Joel A. Allen, on Ornithology; and Professor Edward S. Morse, on Zoölogy; lecturer in the Law School for the ensuing academic year, Nicolas St. John Green, on criminal Law and torts; Henry Howland A. B., tutor in German for three years from September 1, 1872, and instructor in history for the ensuing academic year; Joseph D. Brannan, A. B., instructor in Roman Law for the ensuing academic year; and Professor George L. Goodale, university lecturer on vegetable physiology and instructor in botany for the ensuing academic year.

The President of the university presented votes of the corporation conferring the degree of A. B., out of course on Edward Southwick Philbrick, as of the class of 1846, and Charles Pinkey, James and William Hathaway Forbes as of the class of 1861, and the board concurred therein.

Some other minor business was transacted after which the President of the board appointed James C. Davis of the class of 1858 as principal inspector of polls, and Winslow Warren of the class of 1858 and Oliver W. Holmes of the class of 1861 as assistant inspectors of the polls for the election of overseers.

The meeting was then adjourned to Wednesday the 29th inst.

Yale College, (New Haven, Conn.)—A severe rain prevented a very full audience at Prof. Weir's lecture last Monday evening, but those who were there were well paid for their attendance. The subject of the lecture was "Composition," and the theme was illustrated with numerous projections upon the screen. The last lecture of the course is to be delivered next Monday evening.

The principle excitement of the week has been connected with base ball. The first of the series of games, with the Harvard club, which was to have been played last Saturday, on Jarvis Field, resulted in a fiasco. The nine went up Friday afternoon, but Saturday proved rainy and so the match game was not played. It is hardly fair, however, to attribute the failure entirely to the weather. The rain held up about the middle of the afternoon and the game would have been played if Richards had not been inexcusably absent in Boston, visiting friends, and Payson, substitute, had not also been absent. The only excuse for this absence is that the weather looked unpropitious, which, under the circumstances is a very slender one. A practice game was finally arranged, the nines changing pitchers and catchers, and filling out missing places as best they could. This resulted in a score of 18 to 10 in favor of the nine that had most Yale players. Annan, short stop of the Harvard nine and one of the best players was sick, and did not play, and so, taken as a whole, the game was a pretty bad failure. Richards finally returned, but too late to take part even in the practice game. A large number of Yale men and Alumni from Andover and Boston were present, and went away badly disappointed. The hospitality of the Harvard club is spoken of in the highest terms. A game, which would have been the second of the series, is to be played on Hamilton Park, to-day, if the weather permits. The Yale club met the veteran Atlantics last Wednesday afternoon, and, after a fine game defeated them by a score of 20 to 16. The playing was fine, especially the batting of the Yale Nine.

The annual Phelps Prize Barge Races came off on last Wednesday evening. Four crews entered as follows: Scientifics.—R. W. Davenport, (*stroke.*) T. P. Nevins, F. Cogswell, H. H. Buck, C. D. Hill, C. T. Smith, H. S. Hoyt, (*cox.*) Juniors.—H. A. Oaks,(*stroke.*) H. Myer, F. D. Allen, C. A. Russell, S. Merritt, S. L. Boyce, F. Wright, (*cox.*) Sophomores.—C. D. Waterman, (*stroke.*) H. G. Fowler, W. O. Henderson, G. E. Monroe, H. D. Bristol, J. A. B. Dunning, L. S. Boomer,(*cox.*) Freshmen.—F. T. McClintock, A. S. Merwin, W. R. Richards, J. R. Selmes, C. F. Cutler, J. A. Post, Ellis Ward, (*cox.*) The crew which represents the College at the Springfield Races did not row the race, because their barge is very low in the water and the water was somewhat rough. We have no means therefore of judging how well they will represent the University at the regatta at Springfield. The time appointed for the race was 6:30, but on account of the roughness of the water there was a delay of an hour. The race was mainly between the Sophomores and Scientifics, although all but the Freshmen kept well together during the first mile. The Sophomore had the heavier boat by 100 pounds, and were consequently allowed a handicap of 25 seconds. The Scientifics came in four seconds ahead of the Sophomores, but lost the race on account of the handicap. The time was as follows: Scientifics, 21 minutes; Sophomores, 21 minutes 4 seconds; Juniors, 21 minutes 47 seconds; Freshmen,22 minutes 10 seconds. The referee was Charles H Owen, Esq., of Hartford, and the judges, W. L. Cushing, D. Davenport, C. T. Marsh, C. H. Thomas, D. J. H. Wilcox. The first prize was $75.00, and the second $25.00.

The attendance at the race was large, every available space being occupied. Two steam tugs were employed to follow the boats over the course, which extended from the Steamboat Dock a mile and a half down the harbor to two stake boats off Oyster Point and return. On one of the boats were the judges, the reporters and several ladies. The other one was heavily laden with students at ten cents a head. The race was a fine one, and it seems a pity that what is hoped to be the best crew in the University did not give a chance to judge of their abilities.

Professor Eaton and a party of students made a botanical excursion out back of Donald G. Mitchell's "Farm at Edgewood," last Wednesday afternoon.

In preparation for summer engagements, the Yale Glee Club has placed itself in the hands of Dr. Stoeckel, and is busily engaged with the rehearsals on Tuesday and Friday evenings.

The *Yale Courant* says: Here is a specimen of Japanese English, which passed between a Japanese student in town and his landlady: "I told you other day, that I would move from here to Wall street; but I will not move for my convenient, and I will oblige to you for more little while. I will move here any time if you promise somebody to lend the room to him. I am very sorry for that I could not always get home at supper time. Are you inconvenient that I have tea at late.

The estimated expenses of the University Boat Club this year, are $1,487.50. The subscriptions are $757.50,

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leaving a balance to be subscribed of $730. The estimate for expenses is the lowest possible, and includes all Regatta expenses, which will be $300 less than usual. The $757 of subscriptions, are exclusive of the amount which the action of the Rowing Association of the Academical Departments of American Colleges made it necessary to return to the Scientifics. If the $730 deficit is made up, the club will be free from debts of any kind, for the first time since the Boat House was built.

The *Yale Index* will be issued this term, about the same time as last year.

The Glee Club will probably give a concert during commencement week, for the benefit of the Yale Boat Club.

YALE PERSONALS.

'18, WILLIAMS.—Rev. Thomas Williams, of Providence, R. I., now 93 years old, preached on Sunday afternoon, May 12th, in the First church, Berkley, Mass.

'50, BACON.—Rev. Leonard W. Bacon, late of Baltimore, sails for Europe, with the intention, it is said, of there studying the Roman Catholic question.

'61, MCLANE.—Dr. James W. McLane has resigned the chair of materia medica and therapeutics, in the college of physicians and surgeons, medical department of Columbia College, N. Y., and has been appointed Adjunct Professor of Obstetrics and Diseases of women and children, in the same institution.

'64, TYLER.—Rev. James Brainerd Tyler, pastor of the Congregational church at Groton, died May 28th, aged 30. He was born March 23, 1842, at Brainerd station, in the island of Jamaica, W. I., where his father, Rev. Ralph Tyler (formerly a member of the Yale class of '37, now a resident of this city), was then laboring as a missionary among the freedmen; was converted in this city at the age of 12; pursued his collegiate and theological studies here, graduating as B.D., in 1871; was ordained pastor at Groton, Sept. 27, 1871; and died suddenly of rheumatic fever, greatly lamented. He was an earnest, energetic, and scholarly young minister, of excellent character and bright promise of usefulness.

'69, RICHARDSON.—Rufus B. Richardson, who recently graduated from the Yale Theological Seminary, sails for Europe to-day. He intends to pursue his theological studies abroad for a year or two.

'69, SHIRLEY.—Mr. Arthur Shirley, of the graduating class in the Theological department, accepts a call to the Congregational church in Conway, Mass.

'71, BLISS.—O. J. Bliss, who is still engaged in the stationery business in Chicago, expects to start for Colorado, soon on a summer trip.

GLEANINGS.

PERSONAL.

— Prof. Atkinson, of the Massachusetts Institute of Technology, has sailed for Europe.

— Prof. G. I. Chace, formerly connected with Brown University, has sailed for Europe accompanied by his wife.

— Prof. G. W. Northrop, president of the Baptist Theological Seminary, in Chicago, will soon sail for Europe.

— Prof. John Tyndall, has been reëlected professor of Natural Philosophy in the Royal Institution of Great Britain.

— Prof. Goldwin Smith, has finished his course of lectures for this term at Cornell, and will soon return to Canada.

— Professor E. D. Sanborn, of Dartmouth College, delivers the oration on Memorial day at Gilmanton, New Hampshire.

— President W. S. Clark, of the Amherst agricultural college has withdrawn his resignation, and will remain in his present position.

— Mr. C. P. Chase, tutor in Greek at Dartmouth College, has been appointed professor of mathematics in Orient College, Michigan.

— The Rev. Thomas Rawson Birks, has been chosen to succeed Mr. Maurice, as professor of moral philosophy in Cambridge University.

— Prof. Tracy, of Mich. State Agricultural College, has resigned his position as Professor of Horticulture, to devote his attention to fruit culture.

— Rev. H. L. Wayland, formerly president of Franklin College, Ind., has entered the editorial profession in connection with the *National Baptist*.

— Dr. W. C. Tilden, of Middlebury, Vt., and a graduate of its college, has received the appointment of professor of chemistry in Howard University, in Washington.

— The late Professor Elton, has endowed in part the Elton Professorship of Natural Theology, in Brown University, having donated about fifteen thousand dollars to that purpose.

— The story going the rounds that Prest. Finney, of Oberlin, is going to lecture against Masonry, is said to be false in every particular. He is scarcely able to leave his house for any purpose.

— President Dashiell, of Dickinson College, was recently elected one of the secretaries of the Missionary Society of the Methodist church, by the general conference now in session in Brooklyn.

— Prof. Wright, has commenced his lectures on chemistry to the Williams Juniors, and, says the *Vidette*, "the recitation room is once more graced by the fair maidens of Williamstown, who come to hear the lectures."

— Professor Albert Hopkins, of Williams College, brother of President Hopkins, and himself professor of astronomy, died Friday night May 24th, at Williamstown, Mass. He had been connected with the college about forty years.

— Hon. John Pruyn, Chancellor of the University of New York, responded to the toast of the Literature of other Countries, at the recent Royal Literary Fund Dinner in London. His references to the speedy settlement of the international copyright question, were loudly applauded.

— The College of Physicians and Surgeons, the medical department of Columbia College, New York, has recently made the following changes in its faculty: Chas. F. Chandler Ph.D. has been appointed adjunct professor of Chemistry; Dr. James W. McLane, has resigned the chair of Materia Medica and Therepeutics, and has been appointed adjunct professor of Obstetrics and Diseases of women and children; and Edward Curtis, M.D., has been appointed lecturer on Materia Medica and Therepeutics.

COLLEGE.

— Richmond College at Richmond, Virginia, is in need of $30,000 or $40,000.

— The seniors at Williams have resolved to spend $100 for the purchase of books for the library.

— The other day eleven games of cricket were being played at one time on the campus of Racine College, Wis.

— Chicago Univerity is receiving some of the models of rejected inventions from the museum of the Patent Office.

— A half-century history of Madison University has been prepared and is to be ready for delivery before Commencement.

— It is said that more than one half of the seniors at Griswold College, Davenport, Iowa, are going to study for the ministry.

— Greylock Institute at South Williamstown, a preparatory school for Williams College, is to be rejuvenated, and hopes to start on a career of renewed prosperity.

— The instruction in Homiletics in Rochester Theological Seminary heretofore given by Dr. Robinson will be given by Dr. Buckland until another professor is appointed.

— A committee of the Trustees of the Baptist Theological Seminary, in South Carolina, has been appointed to visit the several places bidding for its location and determine where it shall be situated by the first of August.

— The Freshmen Crew of Middletown University which is to row in the Springfield regatta are: bow, James M. Stow of Middletown, Conn.; starboard waist, Hermann Carter of Dover, Del.; port waist, Albert N. Nash of Lee, Mass.; starboard, James E Denison of Hartford, Conn.; captain (stroke,) W. F. Borgelt of Middletown, Conn.

—A new plan of giving out lessons in Greek is proposed at Dartmouth College. The text books are to be given up, and the lessons for each day are to be given out on slips of paper the day before. These slips are to be returned when used and to be changed with every class. The object of the innovation is to cause more study on the part of the student.

— At Westfield College, Westfield, Ill., the Board of Trustees will meet on Friday, June 7th. Examinations will begin on the same day. Baccalaureate sermon will be preached on Sunday, June 9th. The society anniversaries will be held on Saturday and Monday evenings, June 8th and 10th. Annual address to the societies, Tuesday evening. Commencement, Wednesday, June 12th.

— A Society of Natural History of the Michigan State Agricultural College was organized May 20, with a membership of 30. Its design is to cultivate the Natural Sciences, especially Natural History. The officers for this term are W. K. Kedzie, Prest., J. L. Morrice, Vice Prest., C. E. Miller, Rec. Sec., Prof. A. J. Cooke, Cor. Sec., G. W. Mitchell, Treas., C. H. Ingalls, Librarian, F. Wells, Curator of Museum.

— The new building for the Alpha Delta Phi society at Dartmouth College is to be erected on the society's lot and is to be two stories high and 36 by 46½ feet on the ground. The lower story will contain four suites of rooms for students, and a hall through the center; the upper story furnishes a spacious hall with ante and guard rooms. Contracts for building are already made, and the work is fairly commenced. It is expected that it will be ready for occupancy by the beginning of the fall term. The material is brick and the estimated cost $4,000.

— The annual reunion of the alumni of Colby University was held Friday evening, May 24th, in Boston. A good number was in attendance, about half ladies. A number of speeches were made by different ones among whom was Professor Moses Lyford, who gave an interesting account of the improvements already made during the past year and now making. He also said the college had been especially fortunate in its first freshwoman. She had been fitted so as to take a high stand and to command the respect of every one. Her influence had been unqualifiedly good in every direction.

— The fortieth annual convention of the Alpha Delta Phi Fraternity was held with the Peninsular Chapter of Michigan University at Detroit, on May 22d and 23d last. Five business meetings were held and the welfare of the fraternity was well attended to. On the evening of the 23d the public exercises were held in the Opera House when Hon. J. R. Doolittle of Wisconsin delivered an oration upon "The United States of America in the light of Prophecy." The address was nearly two hours long. It was followed by a poem "The Legend of Alcmæon" by Rev. Frank Sewall President, of Urbana University. After the public exercises a banquet was partaken of at the Russell House. At one of the Business meetings it was voted to hold the next annual convention in 1873 at Cornell University, and the following officers were elected for the ensuing year. President, Moses Coit Tyler; Orator, Richard Salter Storrs; Alternate, Frederick Daniel Huntington; Poet, James Russell Lowell; Alternate, George Sales Bishop. The convention on Friday went up to Ann Arbor and looked over Michigan University.

— The statistics of the class of '72, at Dartmouth College are published in *The Dartmouth* for June. The whole number connected with the class has been 93, of whom 69 graduate. Of these 31 came from New Hampshire, 15 from Vermont, 5 from New York, 4 each from Massachusetts and Maine, 3 from Missouri, 2 each from Pennsylvania and Illinois, and one each from Michigan, Minnesota and Nova Scotia. The oldest at graduation will be 31 years, 7 months, 13 days; the youngest, 19 years, 9 months, 8 days. The average age will be 23 years, 6 months, 8 days. The largest estimated expenses for the course are $3,800; the smallest $1,100; average, $1,782, or a little over $400 a year. The amount earned during the course by all the students is $29,700, and the largest single sum is $1,475. Most of the money has been earned by teaching. For the future, 18 intend to study law; 8 each take theology and medicine; 7 each, business and teaching; 4 engineering; 3 journalism; 1 each, farmer and naturalist; and 10 are undecided. In religious preference 24 are Congregationalists, 14 Catholics; 6 Presbyterian; 5 Methodists; 4 Baptists; 2 each Unitarians and Universalists; and one each Trinitarian, Evangelist, Episcopal, Liberal Christian and Neophyte; while 4 are undecided. There are 40 Republicans; 14 Democrats; 10 Liberal Republicans and 3 undecided. Twenty favor, 44 oppose and 3 are undecided on the question of co-education at Dartmouth. Twenty-three are Free Traders, 38 Protectionists and 6 are undecided. Three have been in the army.

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, JUNE 8, 1872. NUMBER 23.

LIGHT AND COLOR IN NATURAL BEAUTY.

TRANSLATED FROM THE GERMAN OF CH. OESER.

How many an otherwise beautiful landscape seems entirely dead and expressionless, when it is seen covered by a grey cloudy sky, which hinders the play of light! But see! the clouds separate; streams of golden light flow down upon every hill, separating the dark green pine woods from the light vineyards, and bathing the old walls of the ruin in youth-renewing rosy red; and into this indifferent, characterless face, life comes suddenly, and a soul speaks from its features! The sunbeam kindles the hard earthy substance, not merely for the feeling; it warms and enlivens matter for the eye also, spiritualizes the stiffness into the ethereal, and every limitation of the object, every part of its surface becomes a speaking countenance. But pure colorless light must be decomposed; must enter into the various pictured bodies in different combinations; must in a word become color, in order that the beautiful world may appear, gaining æsthetic importance for the eye. If everything around us were sunlight, then must we be only pure beings of light in order to endure it; if everything, heaven and earth, were blue or green, then would we also know of no color; the beautiful variety would be lost, because contrast would be wanting. The day must be born of the night; the light stream forth from the darkness; and as upon the blue heavens the golden stars shine together with the silver light of the moon, so must blue and white, red and yellow flowers blossom upon the green earth; green foliage must wave upon black-grey or gold-brown or whitish branches; the sand of the wilderness and the grain-fields, sea and rock, must be contrasted in color. As the darkness wishes for the light, and light-splendor displays its glory most beautifully upon the dark ground, as yellow and blue unite in a new color, and green, which bears a shadow in itself—the blue—complements the red; so must one color seek the aid of the others, where it does not remove but only softens the contrast; it must show in all diversity, that it reposes on a common unity, and has gone forth from the one same light.

Yellow is the strongest light-color. Yellow and yellow-red are strongly bright; they stand next to the sunlight, are life-wakening like it, and render the mind cheerful and bright; but they also shine easily, and in their shining, (as in silk or gold), are most beautiful. Although they are merely a dimness, a shadowing of pure light, yet as they stand so near to it, they can least bear a taint. A dirty yellow is ugly.

The red beam is especially a bearer of warmth; it is produced by the longest light-waves; it unites with its strength also some roughness, and not seldom a glare which hurts the eye. A blind man compares the feeling of the surface of a red body to the sound of a trumpet. The red blood is beautiful only in showing through the white skin. In this softening we behold the color of fresh pulsing life, of young life-pleasure, of love which possesses in the red of the hundred-leaved rose its most beautiful symbol. In purple-red the heating beam becomes softened, but verges to the black; it is in contrast therefore with the freshness of youth; it is more earnest, self-conscious—the symbol of power.

Orange, the mixture of red and yellow, is not separate and fixed as the red is, not restful, as the glowing coal, but wavers as the flame, and is animating and unquiet, yet warming like it.

Blue has narrower wave-breadth and less power of light than yellow and red; it bears a shadow with it, and is accordingly the opposite of the shining yellow, just as white and black stand over against each other in still greater contrast. In blue the retiring veils itself; it hides from sight the distance, the sea, and the sky. When blue prevails all color-play of light becomes lost in one homogeneous deep grave tone. But it reveals also the first approach of colors. Light flying through the heavens leaves the empty space behind black and unchanged, and when it touches the atmosphere of our earth expands first into blue color, which has behind it the black background, the empty space, but before it light sunny life. Night has been called the mother of things, from whose darkness they have all sprung; blue is at the same time the daughter of darkness and of light and forms between the two the friendly mean: in it Night and Day are eternally harmonized. Through this peculiarity it acquires the character of aspiration. Blue violets rise out of the dark bosom of the earth, allured by the first spring sunshine, awaking the hope of lovelier, sunnier days. Still more surely the mixture of blue and red, whereby the violet is produced, indicates the strife after fullness of life.

The blue light-beam exercises upon the germinating and growth of plants a powerful chemical effect. If you let the sunlight fall through red and blue glass, into a dark box in which cress-seed have been placed, the little stems will bend towards the blue light, while the roots seek after the warmth-giving red light. So also the branches of the trees stretch forth into the "blue ether," and give us, as Humboldt beautifully remarks, a type of aspiration. The oxygen, set free by plants, is given up most quickly to the yellow light. Yellow-green light is most favorable to the growth of flowers, therefore one should place in his conservatories, glass of this color; and nature itself indicates the same to us, in that she surrounds the flowers with a green roof of foliage.

In green, which neutralizes the contrast of blue, the color of aspiration, and yellow, the color of full possession, there is something quieting. The distant future (blue) appears in the sunny present (yellow). The yellow streaming light is moistened by the tender shadow and thus softened. Green is the fundamental color of plant-clothing; upon this the mildest of colors the eye can linger longest, and rest from the stiff and rough contrasts, which the sanguinary animal world or the too vehement sun-beams present; the color of budding life, covering of the brightly colored blossoms in the cup, is the color of hope.

Grey is a mixture of black and white, phlegmatic, dull, indifferent, but it is of use in contrast with glaring coloring.

Of brown the æsthetic Vischer says: "This belongs neither to the principal colors, nor to the prismatic divisions, (the seven rainbow colors); it is a mixture in unequal parts of yellow, blue, and red; red, however, is predominant, and gives to the indifference, which without its interfering influence would arise from the yellow and blue, the signification of power and strength. Brown is the fertile sustaining soil for plants and animals; it appears as the color of usefulness; a brown skin gives the proper expressiveness of shadows to the complexion, and is yet less gloomy than black. Brown softens also the severity and sadness of black, and brings into it a warm tone."

As in specific colors, many others mingle, so light and shadow are mixed in every one in different degrees; the tone of one and the same color is stronger, and more intense, or weaker, vanishing, and softly dying away. By this contrasts are softened; the transition from one to the other becomes easier. If you look at a rainbow, this bow of triumph, of color-majesty, born from the light, you will see this transition wonderfully accomplished. As in music, major and minor alternate, one tone passing over into the other, returning again from longer transitions into the tonic, and as in execution, crescendo and decrescendo, forte and piano lead the tone-waves to the ear, now weaker, now stronger, quicker and slower; so the light plays with its colors, a concert in various keys and measures; writes here a maestoso, there an amoroso, here an elegiac andante, there a sparkling presto. And not only is a landscape with its meadows and woods, mountain and valley, river and sea, a color-symphony, but every tree and every flower also displays this in miniature. How often with ingenious hand, directed by an æsthetic taste, is a flower-concert arranged in boquets, in which a delicately colored flower receives its proper place near one darkly glowing, in order to brighten its beauty and soften the strong tone of its neighbor; in which little groups are formed, which unite the congruous, and yet avoid dead uniformity, and by working together produce a harmonious impression, such as Beauty, considered as Unity in Variety, demands. Not every one understands the arranging of a boquet, and many hold, like the savages, that what is simply variegated is beautiful.

Nature it is true often makes very harsh color-combinations, but considered as a great whole, the roughness and apparent capriciousness vanish. The bright colored flowers express the strong effects of light that characterizes the tropical world; so does the splendid, far-shining feather-coverings of the birds, and even the fishes in the sea swim in silver and gold and purple colors. In our northern pine forests, under pale blue skies and in cloudy atmosphere, the variegated parrots would be too strong a contrast. Our speckled woodpeckers and nutcrackers are quite variegated and brilliant enough. The same nature, the creative, governing reason of the Lord of all beings, which gave to the Northerner a whiter, tenderer skin and blonde hair, bestowed on the deeper colored skin of the Southerner, black hair, which, becoming stiffer, suits the sharp-cut face of the South, just as the blonde hair harmonizes with the more melting physiognomy of the North. The Oriental imitates instinctively the Creator and chooses lively, often glaring, colors, for his clothing, while the Occidental shuns all harshness and conspicuousness, and by the avoidance of unblending contrasts, and by harmonious combination, chooses colors suitable to his individuality, his age, and disposition.

JOTTINGS IN YEDO.

An exhibition of curiosities in nature and art has been opened this week in Yedo, which really marks an era in the educational development of this people. Among the numerous temples and shrines, in Yedo, dedicated to the purposes of the many sects in Japan, there is one very handsome temple sacred to the spirit of Confucius. It is situated in the beautiful grounds of the old Chinese College. This college was the chief seat in Japan of the study of the science and literature of China, to which Japan owes so much of her culture, her civilization, and her superstition. The study of Chinese is now falling into desuetude, and the college has been closed for years. Formerly none but the highest scholars, or men of rank could enter this temple; but during this week crowds of common human beings pass its portals and see the curious things collected there, by paying a cash value of two cents.

The exhibition was projected by a few enterprising Japanese literary men, and though small compared with the collections of some towns of Europe or America is very good, and well selected, considering that it is the first enterprise of the kind in Japan. The specimens exhibited are those in the fauna and flora of Japan. Icthyology, herpetology, and entomology are the best represented. About 100 birds, representing the orni-

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thology of Japan, are well stuffed and mounted. A number of mastodon and elephant's bones, evidently from Siberia, are in the collection. The wealth of the timber of the empire is well illustrated by the polished slabs exhibited. In looking at the cases of insects, one wonders whether there can be a country so rich in its variety of beetles. The cases of cryptogamous plants were also remarkably well filled; the specimens in this, and in all the departments, being mounted with exquisite nicety.

The Japanese department was the most interesting to a casual foreigner. The articles of lacquer and bronze were mostly of the old, rare, and costly patterns. Arms and armor, ancient dresses, musical instruments, manuscripts, pictures, carvings, etc., were neatly arranged, and well illustrated the history, and changes in Japan. Among the large number of coins, were the old oblong sheets of gold six inches long and four wide, and the gold rujo—a massive sheet of pure gold, which before the opening of the country was worth one dollar, but which cannot now be bought for six.

Besides the many old curios, there was an immense fish about 10 feet high or long, and two feet wide and thick. It seems just ready to swallow some Jonah, or is trying to stand on its neck. It is made of a copper shell covered with plates or scales of pure gold. It has long been one of the wonders of Japan, and is now on public exhibition in Yedo for the first time. It is exceedingly difficult to judge of the weight or value of the gold on it, but it must be many thousands of dollars.

Gold fish apart, however, the fact of an exhibition of things, which are of interest mostly in a scientific point of view, is an event in Japan that speaks well for the present, and promises better for the future. His High Grand and Mighty Mysteriousness, the Mikado, is to visit the college in a few days. Of course the students are practicing to speak their pieces well; while he who worketh in the chemicals is especially entreated not to let anything explode near his sacred face. It is a good thing for young Japan and the Mikado himself. He is beginning to think that the mystery play has been kept up long enough already. CURIO.

Yedo, April 22, 1872.

BOWDOIN COLLEGE.

A regular charter for a college in what was then known as the then district of Maine, was granted by the Legislature of Massachusetts, in 1794, and the college was named Bowdoin in memory of one of the most eminent of the Massachusetts Governors. The site of the college was fixed at Brunswick, at the time a central point in the District, and now one of the most attractive towns in New England. The proximity to the ocean contributes undoubtedly to the somewhat remarkable salubrity of the place. Casco Bay, one of the most beautiful on the coast of Maine, sweeps up to within two miles of the college, and the varied indentations of its shores, together with the Androscoggin river to its junction with the Kennebec, three or four miles distant, afford several beautiful drives in different directions from the town.

The college grounds are on an elevated plain, about a mile from the Androscoggin, well kept, spacious, shaded by maples and elms, and surrounded on three sides by a belt of shrubbery and trees. There are eight college buildings: Massachusetts Hall, the original edifice, which it is proposed to fit up for the cabinet of Natural History; Adams Hall, containing cabinets and lecture rooms; Memorial Hall, the interior yet unfinished, an impressive and beautiful granite structure in the French Gothic style, which will contain a spacious apartment for the public meetings of the college and lecture and other rooms for college uses; the chapel, Romanesque in style, in which are the college library, a gallery of paintings, the cabinet and library of the State Historical Society, and the chapel proper for religious services, one of the most beautiful in the country. The remaining buildings are the gymnasium for gymnastic exercises, and three dormitories.

The college sent forth its first class in 1806. Its graduates number 2747, including those of the Medical School of Maine, which has been connected with the college from the foundation of the school in 1820. The Triennial Catalogue of the college bears on its roll its full proportion of names of men who have done honor to their Alma Mater in the highest positions of church, by the results also of their labors in science and literature, by success in all the professions and walks of life, and by distinguished service in the cabinet and the field.

The tendencies of the college in its past history show the influence of the common mother of New England Institutions. Most of its earlier teachers and Governors were sons of Harvard and its general system of discipline was formed on that ancient model. With a decided spirit of conservatism, it yet has not hesitated to adopt changes in its course of study and its methods of instruction to meet increasing wants. The demand for what is termed the practical, in our collegiate system has never been disregarded. From the beginning it has enlarged its curriculum whenever it seemed desirable, and more recently, after much deliberation, it has devised a scheme which embraces quite as much, to say the least, as any college can, safely undertake. A scientific department has been gradually developed, and is now announced in its annual programme which, while the strictly academic course is made more comprehensive, gives assurance that all reasonable demands for the practical are met.

To this department, which extends through four years, candidates are admitted on a strict examination. Its course of study embraces the Latin, French and German (required), and other modern languages, optional to the student; the Mathematics, Engineering, Natural Philosophy, and Astronomy, Chemistry in its various branches with work in the laboratory, Mineralogy and Geology, Natural History, Drawing, Rhetoric, Elocution and English Composition, Civil History, Political Economy, Mental and Moral Philosophy, etc.

The cabinets available for illustration are the Museum of the Geological survey of the State, the Cleaveland and Haüy collections of minerals, the Shattuck Concological Collection, the Cushman Ornithological Collection, the Blake Herbarium, and the Anatomical Museum.

The libraries of the college number nearly 35,000 vols. The college library, about 17,500 vols., is much more valuable than its size indicates and is open for consultation five days in the week. The Gallery of Paintings, about 140 in number, presents an attraction such as no other college in the land possesses. The Gymnasium is provided with approved apparatus and the regular and voluntary exercises are under the supervision of a competent director. An officer of the army has been detailed to give instruction in military science, and all students are drilled daily, but without interference with study.

The Medical School, the lectures of which are given in Adams Hall, and which has a valuable Anatomical Museum with all the facilities required for medical instruction and a library of 4,000 vols., has graduated more than a thousand Alumni, and from the eminence of its teachers and its thorough and efficient instruction has always held high rank among the medical schools of the country.

It should be added that the college offers several prizes for scholarship, and several scholarships with other means of affording aid to such as need it. Strenuous efforts are making to increase the number and value of such helps for the deserving.

NATIONAL AID TO SCIENTIFIC SCHOOLS.

Several bills have been brought before Congress having reference to the further endowment of the scientific and polytechnic schools which were aided by the national grant of July 2, 1862. That which is most likely to pass was presented in the Senate by Hon. J. Morrill of Vermont. It avoids almost all the objectionable points which have been urged against other kindred projects, and seems likely to secure the assent of Congress, though not at the present session. Petitions favoring such a grant have already been sent to Congress from prominent citizens of different states. The text of the bill is as follows: *Be it enacted, etc.*

SECTION 1. That for the more complete endowment and support of colleges established under the provisions of an act of Congress approved July second, eighteen hundred and sixty-two, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," there is hereby, appropriated, to each State and Territory in which such colleges have been, or may be within five years from the passage of this act, put into actual operation, the proceeds of the sale of five hundred thousand acres of public lands, estimated at one dollar and twenty-five cents per acre, on such conditions as to the application and management of the sum hereby appropriated as are prescribed in the act hereinbefore mentioned.

SEC. 2. That whenever the Secretary of the Interior shall have the certificate of the governor of any State or Territory, or other satisfactory evidence, that such college or colleges has or have been duly established in such State or Territory, as provided for in the act of Congress heretofore mentioned, it shall be the duty of the said Secretary of the Interior to certify the fact to the Secretary of the Treasury, and also to the trustees or other board of managers, having the lawful financial control of said college or colleges; and thereupon, it shall be the duty of the said Secretary of the Treasury, upon the application of said trustees, or said board of managers, to issue to them a certificate setting forth that said trustees or managers are entitled to the sum provided for in the first section of this act, or if more than one college has been heretofore established in any State or Territory, then to each of said colleges such part of said sum as would be in proportion to the amount heretofore by them received under the provisions of the act of Congress mentioned in the first section of this act.

SEC. 3. That on the first day of July, eighteen hundred and seventy-two, and in each year thereafter, until the provisions of the first section of this act shall be fully accomplished, it shall be the duty of the Secretary of the Treasury to ascertain the net amount of sales of the public lands for the preceding fiscal year, and to invest the same in outstanding United States registered bonds, having the longest time to run bearing five per centum interest per annum, payable semi-annually; or, at his discretion may issue such bonds, retaining the money therefor in the Treasury, to such college or colleges giving to each State or Territory from time to time the equal share to which it may be justly entitled, excluding fractions of less than one thousand dollars, and all such bonds shall be kept in the custody of the Treasurer of the United States, who shall semi-annually pay to the trustees or board of managers, as hereinbefore described, the interest thereupon due.

SEC. 4. That when any bonds as aforesaid shall mature and be paid, it shall be the duty of the Secretary of the Treasury to re-invest the same amount for the benefit of any college or colleges entitled to the same by the purchase of other and similar outstanding United States bonds, or, at his discretion, to issue new bonds, as hereinbefore described: *Provided*, That if it shall at any time be made to appear to the Secretary of the Interior by unequivocal evidence that any State or Territory has not in good faith substantially complied with the provisions of the act named in the first section of this act as to the uses, objects, and purposes therein contemplated, he shall at once duly notify the Treasurer of the United States, who shall thereafter withhold the payment of any interest which may have accrued or accrue to any college or colleges in such

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State or Territory until such time as the said Secretary of the Interior shall be satisfied as to the compliance with the provisions of said act, and shall so notify the Treasurer aforesaid: *Provided further*, That the fund created under this act, and the act heretofore mentioned, shall be appropriated to such college or colleges as has or have been already established in any State or Territory; and where no such college has yet been established, said funds shall be appropriated to the endowment and support of one college only in any State or Territory.

THE SURVEY OF THE FORTIETH PARALLEL.

Some of our readers will remember that in the course of last winter, when the question of public printing was under consideration in the House of Representatives, objections were made to the costliness of the volumes of the "Survey of the Fortieth Parallel." In the progress of the discussion Mr. Sargent, one of the California representatives, spoke with disparagement of the maps and diagrams of the Comstock lode which are given in the Atlas accompanying the Report on Mining Industry. His attention was subsequently called to the unjust inferences which were drawn from his remarks, and to the very great value of the Atlas as a contribution to the world's knowledge of silver mining. Mr. Sargent, with the frankness of a generous and honest man, has taken the first suitable opportunity,—when an appropriation for this survey was under consideration,—to correct the impression which was made by his remarks, and to bear testimony to the value of the work in question.

On Thursday, May 23, the House was in Committee of the Whole on the Miscellaneous appropriation bill, when the question came up of a further grant to this survey. The proceedings are thus reported in the *Daily Globe*.

The Clerk read as follows:

For the establishment of an astronomical base, and continuance of military and geographical surveys and explorations west of the one hundredth meridian of longitude under the direction of the Secretary of War, $75,000.

Mr. SARGENT. Mr. Chairman, some months ago, on the question of printing, when the legislative bill was under consideration, I called attention, by way of illustration, to the work of Clarence King and accompanying maps. Among other statements which I made at that time was that the maps printed in the volume were reproductions of the working drawings of the mining engineers on the Comstock lode, and were not the result of original explorations by the King corps The statement was subsequently challenged, and I took pains to verify my previously entertained ideas on the matter. The result is that I am satisfied that I was correct in stating that the original working drawings were used, but incorrect in undervaluing the work done by the corps in creating new maps from these materials. The original maps only showed detached mines. The maps published group together the mines and gives a connected showing, from which experts and scientific observers can form conclusions as to the nature of the great Comstock vein, and get a perfect idea of the workings. The results are valuable to science. The exhibition of the surveys before was fragmentary, now it is a connected whole. The work seems to have been done patiently and with great fidelity, and the result is a valuable contribution to mining knowledge. To the general merits of Mr. King's work, and that of his corps, I desire to testify; and I did not intend to detract from it in my former remarks. My criticism was to its dress and not to its value. As my remarks may have tended to detract from the well-earned credit of Mr. King and his assistants, and have implied that such credit was assumed where it was not due, I wish cheerfully and generously to do him and them all the reparation in my power. To this end I ask that the letter I send to the desk, from one of his principal assistants, may be read.

The Clerk read as follows:

WASHINGTON, *March* 18, 1872.

MY DEAR SIR: I have little to add to what I said to you in our conversation last Saturday evening, but I beg leave to submit a brief written statement concerning the atlas plates which were the subject of discussion, as I think it very desirable that their true purpose and character should be clearly apprehended by you or any one disposed to criticise them.

When Mr. King's party went to Virginia City it became part of their plan to make a complete study, description and discussion of the Comstock lode, its geological features, structure, and mode of occurrence of its ore bodies. To do this efficiently it was not only necessary to study it underground at the time of our visit, but to collect all the available material in the form of past surveys and records. Fortunately, we found the best of data of this character, for nearly all the leading mines have employed for eight or ten years the excellent surveyors whose names are given on the title page of our atlas, in keeping up the survey from month to month.

These surveys, however, (especially the ground plans, for longitudinal elevation which existed before,) were all or nearly all disconnected, each mine being distinct and separate from its neighbors. As such they were mere fragments of a whole, the relations of the several parts being very imperfectly studied, and not affording the desired foundation for any careful reasoning or generalization as to the form of the vein or its general structure.

To collect all these heterogeneous materials, to study them carefully, reducing them all to uniform scale, map them so as to present a comprehensive view of the vein as a whole, was Mr. King's work. The fragmentary surveys existing before would be of no use or interest to persons not concerned in the particular mine to which they referred, but brought together as a whole, as in our atlas, they became a valuable contribution to the world's knowledge of the character of mineral veins in general, and specially of one of the most remarkable silver veins ever known. In this form the structure and character of the vein can be studied by professional men all over the world, and the atlas containing these plates will thus have a permanent value, since it contains records and surveys that a few years hence, or even now, it would be very difficult to collect. I am assured that this very work placed in the hands of the recent Sutro tunnel commission saved most valuable material which would have cost much time, trouble and money to obtain if the results of Mr. King's labors had not been at their command; and I am told that eight of these atlas plates are to be copied to illustrate the report of that commission.

Now, the credit of this work—as to its conception, purpose and general execution—is entirely due to Mr. King. Mr. Emmons, one of his permanent assistants, spent some weeks in collating and studying the old surveys aided by several local surveyors of Virginia City and Gold Hill; and Mr. Stretch, whose special experience was the largest, and whose skill in drawing very great, was employed to prepare the plates for the engraver. All these gentlemen receive due credit, either on the title page of the atlas or in the main volume.

I trust that this statement will relieve your mind of the impression that you have hitherto had that these plates are presented under any false pretense. They are compiled chiefly from preëxisting data; they must be to be authentic and useful; but they are compiled with a purpose far more comprehensive than that for which the isolated fragments were made; and in this respect the work has all the merit of originality in design and execution.

I need not repeat what I said of the fidelity and patient labor with which the main volumes and its illustrations (chiefly my own) were prepared; nor need I remind you of the serious effects which your late comments may have upon my professional reputation among business men in this country and England. The candid and friendly manner in which you acknowledged the justice of my remarks the other evening assures me that you will be as earnest in repairing an injustice when you once apprehend the truth, as you were in depriving us of a credit which you thought was falsely claimed.

I am, very respectfully, yours,

JAMES D. HAGUE.

HON. A. A. SARGENT, *Washington*.

THE BAPTIST NATIONAL EDUCATIONAL CONVENTION.

The National Educational Convention of the Baptist denomination was held in Philadelphia on Tuesday, Wednesday, and Thursday of last week. The convention assembled in the First Baptist Church, corner of Broad and Arch streets, and was called to order by Mr. Samuel Colgate. A call of the roll showed the presence of 178 delegates representing twenty-five different States and Territories. Permanent organization was effected with Hon. Francis Wayland of Connecticut, as President. The object of the convention, as is well understood, was to deliberate on educational topics and take measures to secure greater success in the educational interests of the denomination. Three sessions, morning, afternoon and evening, were held each day during the three days which the convention lasted. The first session was occupied chiefly in completing the organization and in listening to a paper from the executive committee of the American Baptist Educational Commission, the organization under whose auspices the convention was held. This paper gave the circumstances under which the Commission was organized five years ago, its history during that period, and closed with a surrender of its uncompleted work to the convention and a question, whether a permanent organization of the educational forces of the denomination should be made. Addresses were also made by Rev. Dr. George D. Boardman, who welcomed the members of the convention, and by Rev. Dr. Barnas Sears, who spoke upon "Institutions of Learning established by Christian Denominations considered with reference to Present and Probable Systems of Pub ic Instruction."

In the afternoon session of Tuesday an essay was read upon the question," How, and to what extent, may colleges established for the education of young men and adjusted to that end, be made by the teaching which they offer, and by their apparatus of instruction, to serve, without damage to that original purpose, in the education of young women?" The main points of this paper are as follows: "Colleges admitting young women may at the outset take for granted that those applying for admission and found qualified will be very few. These few may be admitted to the courses of study already established, to pursue them without special privileges of choice, just as young men do. As the number increases, it will probably be found advisable to provide for a wider range of choice, for the introduction of new courses, and for some modification in the existing courses. If the number is large and constant, or increasing, special provision must be made for the care and comfort of these students. A building adapted to their wants must be erected and furnished, and placed under the supervision, to a greater or less extent, of accomplished and motherly women. Meanwhile the two sexes will meet together in the daily worship of the college, and their association will render the worship more real, more pleasant, and more valuable in its moral and religious influence. They will meet in the class-room, and each will stimulate the other to new diligence, and help to secure a discipline more complete, a culture more generous, and a development more symmetrical. They will meet, to some extent, in social life, be less likely to seek each other's society clandestinely than if they were not necessarily brought together in their daily duties; and each will enter on subsequent life with more knowledge of human nature, with better preparation of manners, and with a broader experience than if each had been brought up in seclusion from the other. The college will not be

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worth less to the young man, but more, and will be worth as much to the woman as to the man."

Addresses were also delivered by Rev. Drs. Broadus, Bliss, Burleson, and Wayland, and a paper was read by Rev. Kendall Brooks, President of Kalamazoo College, Mich, upon "The Methods and Uses of Classical Study." Remarks upon the same topic were made by Prof. J. L. Lincoln, LL.D., Rev. Dr. Bliss, and Rev. T. G. Jones. The report of the Committee on the Organization of the Educational Work of the Baptist Denomination was also read by Rev. Dr. S. S. Cutting.

The evening session was devoted to the appointment of various Committees and to listening to a paper by Rev. Dr. Samuel Talbot, of Denison University, Ohio, on "Education, a development of Christian life, the supplement and support of all evangelization, and therefore due in its highest practicable forms, to the whole body of the ministry and the laity."

The morning session on Wednesday was devoted to the reading of papers and discussion of the topics presented. The Rev. R. C. Mills, D.D., of Massachusetts, read a paper on "The Causes which Hinder the Increase of the Ministry," which was discussed by Dr. Wm. Lamson, of Mass.; Dr. E. G. Robinson, president of Brown University; Dr. G. W. Bosworth, Mass.; Dr. R. Trumbull, Conn.; Rev. P. S. Bailey, D.D., Ill., secretary of the Baptist Theological Seminary; Rev. Dr. S. S. Cutting, secretary of the convention, and Senator Jas. R. Doolittle, of Wisconsin.

A paper of considerable importance was also read by Professor G. D. B. Pepper, of Crozer Theological Seminary upon the subject "What is Theological Education." After defining theology in its connection with ministerial education, to be the Christian life in its relation to a governing Deity and a governed subject, the speaker affirmed that as opposed to this the speculations which build up all knowledge of God as of all else upon known phenomena could not come within the studies of a theological school. The studies of a theological school, moreover, excluded all knowledge which had nothing more to recommend it than the fact of its being knowledge. Nor were studies to be entered upon which exercised the mind with that sole aim and result. True theological study has been called by a certain class of philosophers "other worldness," but the truth is that it considered in all its details the relations of the other world to this. The speaker then proceeded to elaborate the definition of theology in its organizing principle; viz., as studying God in His relation of All-supreme Governor to man, His subject. This was carried on at great length, and its scope included the consideration of the leading branches of theological study.

In this session also the report of the Committee on permanent organization was presented and read.

The afternoon session was devoted in part to the reading of a paper by Professor N. L. Andrews of Madison University, upon "The Moral Elements of the Teachers Art," which was discussed by different ones, and a paper by Professor H. H. Harris, of Richmond College, upon "Methods and Limits of Beneficiary Aid," which also excited earnest discussion. Quite a portion of this session was taken up by a debate over the report of the Committee on Permanent Organization.

The evening session was devoted mainly to a continuation of this discussion although a paper assigned to President A. Caswell, D.D., LL.D, of the Brown University, on "The Relative Claims of our Institutions of Learning on the Public Benefactions of our Churches," was read by Prof. J. L. Lincoln.

On Thursday morning the regular business of the convention was continued. The report of the committee on the education of women was presented by Professor Alvah Hovey. This report favored the education of young women in the same colleges with young men, and asked that the people might be given at once the benefit of denominational experiment, and on motion of Dr. Boardman was accepted and adopted by the convention. Resolutions of respect were passed in reference to Hon. Wm. Kelley, deceased, late President of the Educational Commission, and eulogies were pronounced by different persons. After this an important paper and one which excited a good deal of discussion, was read by Prof. C. H. Toy, D. D., Greenville, S. C., on "The Place of Theological Science, in the Sciences comprised in a Liberal Education." The author pleaded warmly for the introduction of theologicnl study in connection with liberal education. What was asked of the general colleges was that the study of theological science should be classed with other sciences as an equal part of a regular course. In the discussion upon this paper which followed, Prof. Kendrick expressed himself in favor of introducing Hebrew as a branch of learning in our secular colleges. He was in favor of breaking down the barriers between the theological and secular schools, and this could be best done he thought by equalizing the studies. Professor Alvah Hovey declared himself in favor of requiring the teachers of natural science in our institutions to take a full course of theology, with the obvious purpose of connecting science with the Bible record, in which view he was sustained by Prof. Andrews. Prest. Robinson of Brown University thought that the proposed change would require a complete reconstruction of the curricula of both college and theological seminary. Other speakers favored the introduction of Bible study into the regular college course.

The remainder of this session was taken up with discussion upon the question of permanent organization of the commission. The afternoon sessson was also occupied with the same topic, and resulted in the adoption of a constitution, the first four articles of which, defining the name, objects, officers, etc., of the commission, are as follows. The remaining articles contain provisions for the internal government of the body and for triennial meetings, etc.

First. This association shall be called the American Baptist Educational Commission.

Second. This commission shall have for its object the promotion of education, and the increase of the ministry in the Baptist denomination. It shall perform its work by forming centres of counsel and co-operation; by collecting and diffusing information in respect to the cause of education as connected with the Baptist denomination; by encouraging and fostering the organized action of the denomination in behalf of its institutions of learning and the education of its youth, and by endeavoring to awaken and sustain a profounder interest in the increase and education of the ministry. It may perform its work further by collecting and appropriating funds for nourishing and sustaining during periods of special exigency, endowed or inadequately endowed institutes of higher learning, in States or Territories requiring exterior aid, and may receive and hold in trust moneys for the endowment of such institutions of learning, given under conditions, until such conditions permit their transfer to the institutions for which they are designed. It shall not take part in the work of raising endowment funds, except by advising institutions how to proceed so as not to interfere with each other, or make unreasonable demands on the friends of education.

Third. This commission shall be composed of the subscribers to the original five years' fund of the commission, and for the time being, of the members of the present National Baptist Educational Convention, and hereafter, as follows: 1. Of delegates from incorporate institutions of learning, whose boards of control are wholly or chiefly of the Baptist denomination, colleges or universities having under graduate classes or schools and conferring degrees. Theological seminaries and educational societies of one or more States may each send two delegates. Academies or preparatory schools may each send one delegate. 2. Of delegates from Baptist State Conventions or General Associations, and from Baptist State Pastoral Conferences. Each State Convention, General Association, or Pastoral Conference may send two delegates. 3. Of persons or associations paying money into the treasury of the commission to promote its purposes, as follows: Any person paying fifty dollars annually shall be a member while so paying; and any educational association formed to aid the purposes of the commission, paying into its treasury not less than fifty dollars annually, may appoint a delegate.

Fourth. The officers of this commission shall consist of a president, two vice presidents, a recording secretary, a treasurer, an executive committee of ten, whose seat shall be at New York, and four advisory committees of twelve each, whose seats shall be respectively at Boston, Chicago, Richmond and Nashville. These officers when sitting together, shall constitute the board of councillors.

At four o'clock on Thursday afternoon the convention went in a body to Crozer Theological Seminary at Upland, where the institution was inspected and a bountiful collation partaken of. The delegates returned in time to hold a last and closing session in the evening. At this session Rev. T. G. Jones of Nashville, Tenn., read an able paper "On Limiting the Number of our Institutions by our Power to make them Strong." The following officers were elected to serve in the newly created organization for three years: President—Alvah Hovey, D. D., Massachusetts. Vice-Presidents—Hon. J. R. Doolittle, Wisconsin, and Rev. J. S. M. Curry, LL. D., Virginia. Recording Secretary—Prof. N. L. Andrews, New York. Treasurer—John M. Bruce, Esq., New York; with an Executive Committee and four Advisory Committees. And after voting thanks to various parties, and receiving and accepting the reports of various committees the convention adjourned.

MIAMI UNIVERSITY.

[This Institution located at Oxford, Ohio, has recently adopted a change in its organization which we find thus described in the *Student*:]

At a meeting of the Board of Trustees held on April 18th, the plan of an entirely new organization of the Miami University was adopted. This plan will go into operation at the beginning of the next collegiate year, Thursday, September 19th. The established curriculum of the ordinary college has been abandoned for a system more in accordance with the educational movement of the day, and better adapted to the wants of the various classes of students seeking a liberal education.

The plan adopted is designed to accomplish the following objects:

1. To provide full courses of instruction for those who wish to take either the regular collegiate or classical course, or special course in science and literature.

2. To enable those who may have but a short time to spend at college, if but a year or a portion of a year, to enter and pursue such studies as they may choose.

3. To carry the branches taught further than is possible under the ordinary collegiate system, and also to secure a higher standard of scholarship in all the departments and classes.

4. To adapt the university to the school system of the country.

We call attention to a few of the special features of the University, in which it differs from other institutions of learning in the West.

Independent Schools.—The customary division into four classes with a compulsory course of studies is abolished, and for it is substituted the system of independent schools. The university is, for the present, composed of the schools of the Latin Language and Literature, the Greek Language and Literature, Modern Languages and English Philology, Mathematics, Natural Philosophy, Chemistry, Mental Philosophy and Literature.

The students will be registered as members of the different schools in which they recite. Each school is divided into classes as the Professor in charge of it may deem advisable, and grants its own diploma to its graduates.

Entire Freedom in the Choice of Studies.—No one class of studies nor any inviolable order is made obligatory. Any student may enter any school or any class in a school that his individual tastes, his aims in life, or the wishes of his friends may lead him to prefer. At the beginning of the collegiate year each student records his name with the school he intends to enter, and cannot afterwards make any change without the special permission of the faculty. Every applicant for admission is required to be prepared for the schools he proposes to enter, and to take studies enough to fully occupy his time.

Conditions of Graduation.—A student may enter as a candidate for any of the higher degrees, or as a candi-

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date for graduation in one or more schools merely. The following degrees are conferred:

Graduate of a School.—A certificate of graduation is given in each department, or school, to all who complete its prescribed course, and sustain an approved examination. This diploma is a certificate of work accomplished in the particular school granting it, without any reference to the student's success or want of success in other schools. The amount of time required to take this degree depends on the nature of the study, and on the thoroughness of the student's preparation, his maturity of mind, and his application. Ordinarily, it will require two years, some may take it in one year; as a student will, in many cases, attend upon several schools each session, he can, if diligent, graduate in all the schools in three or four years.

Bachelor of Arts.—Is designed for such as wish to take the usual collegiate course. It is conferred upon those who have graduated in all the schools of the university, and have sustained the special examinations required for this degree. In most cases it will require four years to obtain this degree, but those who come well prepared, may, by extraordinary diligence, obtain it in three years.

Master of Arts.—Is designed for those wishing to pursue certain branches further than is possible in the collegiate course. It is conferred upon those who, having taken the degree of A. B., have, in addition, completed the advanced course in any three of the schools, and sustained the required examinations.

Bachelor of Science.—Is designed for those wishing to take a full course in the Mathematical and Physical Sciences, but do not wish to study the Ancient Languages and Mental Philosophy. It is conferred upon those who have completed certain prescribed portions of the advanced course in some of the same. It will require three years to take this degree.

Bachelor of Literature.—Is designed for such as wish to pursue Philological and Literary studies to the exclusion of the Mathematical and Physical Sciences. It is conferred upon those who have graduated in Mental Philosophy and Literature and in the Ancient and Modern Languages, and have completed certain prescribed portions of the advanced course in some of the same. Time required to obtain this degree, three years.

Written Examinations.—Comprehensive and rigid examinations have been introduced. The daily marking system has been dropped, and the standing of the student is determined by his success in the examinations at the close of each term.

Advanced or Post-Graduate Course.—In addition to the under-graduate there is in each school an advanced or post-graduate course, intended for those who, having completed the elementary studies, seek instruction in those branches, which, from various causes, cannot be admitted into an under-graduate course. This advanced course is open to all who are prepared to enter it.

The tuition fee for the entire year is forty dollars; one-half to be paid at the opening of the first term; the remainder at the opening of the second term.

SCIENTIFIC.

The Meteorology of May, 1872.—The mean temperature of the month of May at New Haven was 60 degrees, which is 2·8 degrees above the average of this month. The highest temperature was 89·3 degrees on the 10th; the lowest was 39·2 degrees, on the 1st. The range of the thermometer for the month was 50·1 degrees, which is somewhat greater than the usual range. The high temperature of the 8th and 10th was unusual, especially for its occurring so early in the month.

The amount of rain for the past month was 4·39 inches, which is a little more than the average fall. The amount of rain and melted snow for the past six months has been 17·61 inches, which is about four inches less than the average for New Haven. E. L.

Yale College, June 1, 1872.

Ozone-Genesis.—Dr. Pincus states that if perfectly pure and dry hydrogen gas is caused to burn, in a very small flame, from a jet ending in a very fine point, the smell of ozone is very distinctly perceived, and it becomes more conspicuous if a dry and clean beaker-glass is held over the flame. When, by the aid of a properly contrived apparatus, the combustion takes place in pure oxygen, the same phenomenon is observed.—*Chemical News.*

Fossil Man in France.—Mr. S. H. Scudder writes to the *Naturalist* a letter from Mentone, France, in which he says: "We have a great find here. Mr. Revière, of Paris, has been carrying on excavations in a bone-cave here for all the past winter, digging it completely out. He has at last obtained a nearly complete skeleton, skull perfect, of a large sized fully grown man, at a depth of about ten feet in the accumulated debris of the cave, and the bottom is not yet reached. Its position tells of probable burial, but at that depth, it means something. The skull is well formed judging from photographs before me."

Spectrum of the Zodiacal Light.—This subject is intimately connected with that of the spectrum of the aurora, because Angstrom announced that the zodiacal light and the aurora both give the same monochromatic spectrum. But Liais, the Brazilian astronomer, has lately been studying the zodiacal light under the very favorable sky of Rio Janeiro, and comes to a different conclusion. He finds that this does not differ from ordinary sunlight, but gives a continuous spectrum. It is, however, too faint to see any dark lines. This result is confirmed by Rev. T. W. Webb, of England, who has recently been observing the zodiacal light with a spectroscope which shows the auroral line very distinctly. He sees nothing like the green auroral line in the zodiacal spectrum.

Respiration of Fish.—M. Grehant, in the course of a lecture on respiration in fishes, states that, as shown by previous writers, fish are able to live in water until almost the whole of the oxygen it contains in a state of solution has been exhausted. This was shown by a chemical examination of some water in which live fish were preserved, and which, after the expiration of a certain time, showed an entire absence of oxygen, no change in the amount of nitrogen, and double the amount of carbonic acid.

Another curious fact noted by the lecturer was that fish breathe by their skin as well as by their gills, nearly as great a change in the composition of the gases contained in the water being observed when the animals were suspended up to their branchiæ as when the whole body was immersed. He also stated that the presence or absence of the swimming bladder had little effect on the product of respiration.

Formation of Nitrite of Ammonium in Respiration.—The formation of nitrite of ammonium in respiration may be shown by the following experiment: On breathing for a few moments from the chest into a large glass, the sides of which are moistened, and afterward rinsing out the glass into a test tube, the presence of free nitrous acid is shown by the ordinary reagents (iodide of potassium and dilute sulphuric acid). The presence of ammonia is shown by the usual reagents. M. Struve has remarked that the formation of nitrite of ammonium, in the act of respiration, is more feeble in the morning before dinner than in the afternoon. He concludes from this that the nitrogen in the atmospheric air does not play an entirely passive role in respiration, which is evidently contrary to the experience of MM. Regnault and Reiset. It is natural to suppose that nitrite of ammonium present in saliva plays an important part in digestion.

Varying Effects of Poisons on Different Animals.—It is a well known fact that what is poison to one animal may be taken by another with entire impunity. In illustration of this proposition, we are informed that strychnine, so fatal to most animals, may be eaten by certain species of monkeys with perfect safety. In the case of an East India monkey, known as the (*Presbytis entellus*,) one grain was first concealed in a piece of cucumber, which was eaten by the animal with no apparent effect. Three grains were afterward given, and with the same result. To test the strychnine used, three grains were administered to a dog, which proved almost immediately fatal. Another Indian monkey, known as the pouch-cheek monkey, has been found to be more susceptible than the Lungoor, but not so much as the dog.

It is also stated that pigeons can take opium in large quantities with no injurious consequence; goats, tobacco; and rabbits, belladonna, stramonium and hyoscyamus.—*Scientific Press.*

Luminous Electrical Tubes.—At a recent *séance* of *Société d' Encouragement*, M. Alvergniat, maker of physical instruments; exhibited several apparatus of his invention worthy of notice. They consist of rarefied tubes which can be easily rendered luminous by electricity. The tension of the vapor in the tubes is measured by a hight of mercury varying from ·196 to ·314 of an inch. The vapor is the chloride or bromide of silicium, and by rubbing the outside of the tubes with any substance developing electricity, a bright light is produced within the tubes, formed of different colored filaments—rose colored for the chloride and yellowish green for the bromide. The tension of the vapor necessary to produce this phenomenon is greater than that for the Geissler tubes, and the electricity which illuminates these latter tubes does not pass through the new apparatus of M. Alvergniat. The ingenious arrangement which permits of the easy production of these phenomena is capable of application in the arts and sciences, and the *Comité des Arts Economiques* consider it well worthy of attention.

On the Mechanism of Hearing.—Dr. Chas. H. Burnett has recently published in the *Archives of Ophthalmology and Otology*, the results of a research made last fall in the laboratory of Professor Helmholtz, in Berlin, upon the movements of the small bones of the ear, and the relation of these movements to that of the *membrana tympani secundaria*, which closes the round window. Ten preparations of the temporal bone were employed, taken from different subjects as soon after death as possible, the ages varying from 6 to 45 years. The round window was exposed by removing the floor of the tympanum, the preparation was fixed firmly in a vice, and the vibrating parts—previously dusted over with powdered starch to render them more visible—were examined with the microscope. Four organ-pipes—of 50,140,630 and 1,160 vibrations per second—were used as sources of sound, which was conveyed to the ear by a flexible tube. Whenever one of these pipes was sounded, the chain of bones was seen to vibrate, the length of the excursion varying with the pitch of the pipe. The experiments show:

1. That the excursions of the chain of bones of hearing bear a fixed relation to each other.

2. That the excursions of these bones are communicated through the fluid of the labyrinth to the membrane of the round window.

3. That the excursion of the membrane of the round window generally equals that of the stapes; but it may equal that of the *membrana tympani* at the point of the *manubrium mallei.*

4. The pressure within the labyrinth, increased beyond certain limits, causes cessation of the action of the membrane of the round window and the chain of bones. This occurs sooner in connection with high notes than with the lower notes of the scale.

5. If the labyrinthine pressure be greatly diminished or totally removed, the chain of bones may continue to vibrate, but they exert no influence upon the membrane of the round window.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, JUNE 8, 1872.

AMONG the lecturers who are to favor the American people the coming season and whose engagements are made by the American Literary (Lecture) Bureau of B. W. Williams, Boston, are James Anthony Froude, of London, who takes for his subject "The Historical Relations of England and Ireland;" Edmund Yates, of London, who speaks on "English Society," "The Princes of the Pen," and "The British Parliament;" Prof. Moses Coit Tyler, who gives a new lecture, "The Old English Ballads," an addition to his "Day and Night in Congress;" Paul B. DuChaillu, who offers among several others a new lecture entitled "Life in Norway;" Rev. George H. Hepworth, who is to have a new lecture in addition to old ones, and Hon. Carl Schurz, who also is to give a new lecture. This lecture Bureau also makes engagements for James T. Fields, General Kilpatrick, Miss Kate Field, Matthew Hale Smith, Miss Kate Stanton, Elizabeth Cady Stanton, Rev. Washington Gladden and others; likewise for a number of readers, including, among others, Mrs. Harriet Beecher Stowe, Miss Abbie Sage Richardson, and Mrs. Dallas Glynn.

A VIEW somewhat contrary to the common one is taken in a recent number of the New York *Observer*, in the matter of beneficiary aid to indigent students. The view is taken in an article which aims to show that there should be a reduction in the benevolent boards of the Presbyterian church. And among other points, it makes one that there is no further need for the existence of a Board of Education to aid students who are preparing for the ministry. In support of its position, the *Observer* takes the ground that experience proves that the proffer of pecuniary aid has helped many inferior men into the ministry, a large proportion of whom have been failures; that young men of real ability, who have proper views of the sacred calling, will work their own way through college and seminary into the ministry, just as others do into the professions of law and medicine; that the money given for educating failures is just so much wasted, and that the approaches to the sacred offices should be made more difficult than they now are by the system of beneficiary education. While we hardly agree with the *Observer's* opinions, we still think that their publication is opportune, and that they should stimulate those who have charge of the beneficairy funds of theological seminaries to greater care in the selection of candidates to enjoy the aid furnished. There can be little doubt that lazy inefficient men are allured into the ministry by the advantages and ease which are offered by the seminaries or benevolent societies, and these very advantages even, cannot, in some cases at least, help increasing this laziness and efficiency by taking away the strongest of motives, necessity. They remove the antagonism which to some natures is essential to success and almost even to action. But that greater evil than good is done in the aggregate by benevolent societies, is a point upon which we should want to see definite statistics before we would be inclined to adopt the view. However, too great care, it seems to us, cannot be taken in bestowing beneficiary aid.

IN the subject of the co-education of the sexes, there seems a possibility of a difficulty that had not been anticipated; and yet this possibility is so small, that it can hardly be said to amount to a probability. As is well known, the trustees of Wesleyan University, at Middletown, Conn., last summer, voted to admit women on the same terms as men in that institution. This action from the first was regarded with dislike by the students, who have seemed to consider it a trick of the Boston portion of the controlling powers of Wesleyan, and they have not hesitated to express their feelings in the matter. But nothing but talk has yet resulted so far as we know. However the last number of the *Argus* hints at something more definite. It says, "We understand that quite a number of students are thinking of leaving at the close of this year and going to some other institution on account of the expected entrance of females at this college. To such we say, we heartily sympathize with you in your sorrow for the action of a few influential Alumni, who have caused Wesleyan's doors to be so thrown open; but we advise, before taking the projected step, that a memorial to the trustees be drawn up, respectfully asking them to reconsider their hasty action * * * We hope, as there is excellent reason for doing, that the faculty and the great majority of alumni are opposed to any such revolutionary project, and respectfully memorialize those in authority to prevent the threatened disaster to Wesleyan University—the admission of women to its halls." The cause of this feeling among the students seems to be in part at least, an idea that the admission of women will degrade the college to the level of the "western mixed colleges." We can hardly conceive that the students of Wesleyan will withdraw from their classes for the reasons given, nor can we understand how they will be degraded or the credit of the institution injured by the presence of their sisters in the same recitation rooms with themselves. But be that as it may, unless we mis-read the signs of the times, it will not be many years before the number of institutions in which co-education of the sexes is practiced, will be doubled, and that too in the Eastern States, and whether any degredation follows or not.

REV. H. L. WAYLAND, formerly president of the now defunct Franklin College in Indiana, communicates an article to last week's *Independent*, under the head "How to Start a College." The article is written under the form of a letter to the Rev. John Jones, New Broom, Nebraska, and purports to be an answer to an inquiry from the reverend gentleman as to how the "Christian Israelites of Nebraska" shall "get up a college." The article is a long one and covers the ground thoroughly. We would that every man or assemblage of men who are anxious to start a new college, would read it before they commence their work. We cannot forbear giving the main points of the article and an occasional quotation. In the first place, says President Wayland, "*Do not start a college at all* unless you are sure that it is needed. And if the ability of those desiring a college is not sufficient to create a college, pray remember that the multiplication of colleges is not what is needed." "A staggering, shambling college, possessed of no library, no apparatus, no appliances of instruction, with two or three teachers of either sex, who are so engrossed with hearing recitations that they have no time to *teach*, and compelled to give half their strength to keeping the wolf from the door; a college uniting the puny dimensions of infancy with the decreptitude of age, and every year inheriting and bequeathing an accumulated legacy of failure—such institutions we do not need to multiply." But, "if you are satisfied that a college is needed, and that a good college may, with the ordinary blessing of Providence be created, then, secondly, *Do not be in a hurry*. It is the easiest thing in the world to establish a college; it is well nigh the hardest to establish a good college." "Five years, ten years would be a cheap rate at which to purchase success." Thirdly, "*Do not jump at the first location.*" "Get the best place for your college, and the battle is half won. The better your location the more easily will your college be built up; and the better it will be, the more wide its influence." Fourthly, "*Do not spend your money before you have it.*" "If you have nothing, spend nothing. If you have $999.99, do not spend $1,000." Fifthly, "*Do not send an agent East.*" "An endowment that is raised at home is an evidence of confidence at home. To canvass your own state in behalf of your proposed college will be a most effective, and, on the whole, a very fair way of taking the vote of those who have the most interest and best means of knowledge in the premises." "I wish that the friends of education at the East would unite in saying: We will will not render aid to any college that has not the suffrage and the confidence of its own locality." Finally, "*Do not insult God* by asking him for second-rate, third-rate, tenth-rate blessings. If you want a large thing ask Him for a large thing."

TECHNICAL INSTRUCTION IN ITALY.

One of the means by which educational information is disseminated in the country by the Bureau of Education, is by pamphlets called "Circular of Information of the Bureau of Education." These pamphlets contain educational matter which is difficult to obtain from any other source, gotten up under the charge of the Commissioner of Education, and are issued as often as circumstances permit. The Circular for February, issued not long since, contains a report upon education in Greece, received from Hon. John Francis, United States minister resident at Athens; a report upon Education in the Argentine Republic, and information in respect to education in Chili and Ecquador; statistics in reference to elementary education in Portugal, prepared by Mr. Rodriguez, editor of "*O Novo Mundo*;" Notes on School Education in Japan, furnished by Commissioner Tanaka, and the official report for 1870, upon Technical Education in Italy, obtained through the Bureau of Statistics. These papers, taken as a whole, present a large amount of valuable information in reference to the progress of education throughout the world, and the thanks of educators throughout the country are due to Commissioner Eaton for securing them and giving them circulation.

From the last of these, the Report on Technical Instruction in Italy, we propose to draw a few facts which may prove of interest. The technical instruction of Italy is given under four heads or subdivisions. These comprise the instruction furnished: 1. In popular schools of arts, trades and industrial drawing. 2. In military and moral schools. 3. In schools which give technical instruction of the second grade; and 4. In schools which furnish superior technical instruction.

The schools of the first class mentioned above are benevolent institutions, established by private and municipal associations. They are found throughout the whole peninsula, and their object is to furnish information to workingmen such as will be useful to them in their various trades. Accordingly, some of the schools are for masons, some for carpenters, some for blacksmiths, cabinetmakers, etc., while in others ornamental and geometrical drawing applied to various industries, are taught; and some have even a course in chemistry as applied to some industry. At the beginning of the year 1870 there were 154 of these schools in operation, employing 567 teachers, and attended by 13,329 pupils.

The military and naval schools are eleven in number, of which eight are military and three naval. The object of these schools is to prepare young men for officers and non-commissioned officers in the army and navy. The military schools are divided into grades, as follows: 1. Superior institutions, which comprehend the the Royal Military Academy at Turin, and the School for Cavalry and Military Officers at Modena. 2. Secondary institutions which embrace the Military Colleges at Milan and at Naples. 3. Gratuitous schools embracing the Battallion Schools for sons of soldiers at Racconigi and Maddaloni; and 4. Normal Schools, comprehending

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the Normal Schools for Infantry and for Cavalry. The course of instruction in the superior, secondary and normal schools lasts three years; that in the gratuitous schools but two. In the naval schools, which comprehend the Royal Naval Academies at Naples and at Genoa, and the school for machinists and instructors, the course of instruction lasts four years. In the first two institutions during the first three years, eight months are spent in college and four on shipboard, while during the last year six months are given to each.

The schools which give technical instruction of the second grade have courses in agriculture, in the commercial sciences, in mechanics, in metalurgy, and in chemical industry. Some of them are devoted entirely to one course of instruction, while in others there are three. There are seventy-eight of these schools in all, and they had, in 1870, eight hundred and twenty two teachers and 5,578 pupils. The number of schools of this kind has risen rapidly since 1860. There were in that year only four technical schools in the country, and these quite unsatisfactory, but a gradual increase has carried the number up to seventy-eight. Sixteen were founded in 1862 and thirteen in 1866. The largest number of schools in one province is in Lombardy which has twelve, and Piedmont follows with eleven. Liguria and Emilia have each nine, Sicily, seven, and Venetia, six. Of these schools fifty-four are either governmental or are assisted by the government, while twenty-four are entirely independent of such aid.

The schools for superior technical instruction are three in number, the Superior School of Commerce at Venice; the Superior School of Agriculture at Milan, and the Superior School of Navigation at Genoa. To these should perhaps be added the Royal Italian Industrial Museum at Turin. The first of these superior institutions was established by a decree of August 6th, 1868. It is intended to educate competent teachers for business colleges, and partakes somewhat therefore of the nature of a normal school. The course of instruction embraces both modern European and Oriental languages; among the latter, Arabic, Turkish, and Persian. There is also a course of instruction for the education of consuls in foreign countries, which last four years. The normal course lasts three, and a supplementary business course two years. Among the topics taught are commercial literature, commercial geography, knowledge of goods, bookkeeping, the principles of commercial law and practice, foreign languages, commercial statistics, etc. The number of students in this institution in, 1870, was 109. It is supported by the general, provincial and municipal governments, assisted by the Chamber of Commerce.

The Superior School of Agriculture at Milan was established by a royal decree of April 10th, 1870, and is supported in the same way as the School of Commerce, except that the stipend from the Chamber of Commerce is wanting. This institution, which was to be opened for the scholastic year of '70–'71, was to have courses of agriculture, a normal school for the education of professors of agriculture, and special courses for heads of great agricultural enterprises. An effort was also to be made to advance agriculture by experiments.

The Superior School of Navigation at Genoa, was founded by royal decree of June 25th, 1870. It was to be supported in the same manner as the School of Commerce. This school was to have two sections a nautical section to be devoted to the education of professors of navigation, and a section of naval instruction for theeducation of competent naval engineers. Among the studies to be taught in the first section are nautical astronomy, navigation, hydrography, physical geography, meteorology, commercial economy, etc. The course of instruction in the other sections is to embrace mechanics applied to naval construction and machinery, theory of ships and shipbuilding, theory of steam-engines, drawing of machinery, naval construction, etc. The school is to be under the charge of a directing board composed of representatives of the government and the other authorities contributing to its maintenance.

The Royal Italian Industrial Museum at Turin was founded in 1866, and was entirely reorganized in 1869. It combines the following institutions: The school and laboratory of Chemical Technology, well supplied with lecture rooms, working laboratories and apparatus; the Physical Laboratory and Cabinet, which has a lecture-room capable of seating two hundred; a hall for Mechanical Experiments; a Drawing School, and a well filled Museum. The museum of dendrology connected with the latter is said to have the richest collection of wood specimens in the world.

From this brief review of the condition of technical education in Italy, it will be seen that the prospect is most encouraging. Many, in fact most of the schools, are young, but with the impetus which they must receive from the growth of liberal ideas in that country, they will expand in rapid development. It is gratifying to know that the government fosters and favors these institutions in every way possible.

PROFESSOR ALBERT HOPKINS.

Professor Albert Hopkins, brother of President Hopkins of Williams College, and for forty-three years a professor in that institution, died at his home in Williamstown, on Friday, May 24th, in the sixty fifth year of his age. His funeral was attended in Williamstown on the following Tuesday. The exercises were conducted by Professor Chadbourne, who was assisted in the opening prayer by Professor Griffin and in the closing prayer by Professor Bascom. The *Independent* of last week presents the following obituary notice: Professor Hopkins has himself been a large part of the history of Williams College. Thirty-seven years ago he commenced on his personal responsibility the erection of the astronomical observatory. This was the first building in this country devoted exclusively to this purpose, and it fitly bears his name. His earlier years gave promise of eminent attainments in natural philosophy and astronomy, the two sciences to which his study was directed; and the promise was by no means broken, though domestic cares greatly interfered with the prosecution of his studies. It is with the religious history of the college and neighborhood that his name will be most intimately connected. He was the founder of the daily noon prayer-meeting, thirty years ago, and almost constantly its leader. Though he was only recently ordained, he has for many years been a preacher of the gospel; and not only in the college, but in all its vicinity, his message was often heard. Most frequently his manner was deliberate and slow; but sometimes his piercing eye would kindle, and his deep voice would ring with utterances as intense and dramatic as we have ever heard from any speaker. In the neighborhood of Williams College there was a locality known as the White Oaks, inhabited by one of those degraded communities which are occasionally found in New England. Into this den of crime and shame Professor Hopkins entered long ago, laboring with singular wisdom and with marvelous success, for the Christianization of its heathen population. On his own charges he began the erection of a chapel in the White Oaks; and, though he had some assistance in the enterprise, the greater part of the funds came out of his own pocket. Here he gathered a congregation and a Sunday-school, and at length organized a church, undenominational in its character. "The Church of Christ in the White Oaks" he used to call it. Never till the secrets of all hearts shall be revealed will all the fidelity and self-devotion of this good man be known. He was the best specimen we have ever seen of a New England Puritan—or, to borrow Mr. Beecher's saying, of what we believe the New England Puritan would have been if he had lived in our day. Somber and stern in his exterior, it was easy to think that he was harsh and exacting in his spirit; but all who knew him found that underneath this grim appearance there was a cheerful and even a merry heart, a quick and tender sympathy, and a faith as broad and catholic as it was strong and positive. Berkshire County has never lost a better man, and has no better man to lose.

At a meeting of the students of the college, held May 28th, the following resolutions were passed:

WHEREAS, It has pleased God to remove from us our esteemed friend and instructor, Prof. Albert Hopkins, whose exalted piety and rare devotion to the religious as well as the educational interests of the College, have made him beloved by all who have known him during his long connection with the institution, whose attainments in the field of science have gained for him the respect of the world, whose life has been to all an example of religious fortitude and happiness. While we deeply deplore the loss to the cause of education of an eminent scholar, to the cause of Christ throughout the world of a strong friend and supporter, and to ourselves of a watchful counselor and guide, we yet feel assured that our loss is his gain, and

WHEREAS, We recognize in his death the loss of a great and good man, whose earnestness and steadfastness of character we appreciate, and the loss of whose example we greatly lament, and

WHEREAS, We, the students of Williams College, desire to express our grief at the death of him who has justly won our highest respect and admiration, and for whom we feel a deep and unaffected sorrow. Therefore be it

Resolved, that we tender to the family of the deceased, our heartfelt sympathy, and would supplicate for them the grace and comfort they need in this their sore affliction, and be it further

Resolved, That we also extend to the Faculty and Trustees of Williams College our sympathy in the loss they sustain by the removal of their beloved co-laborer, and be it further

Resolved, That copies of these resolutions be presented to the bereaved family, to the Faculty, and that they be published in the College and other publications.

Geo. H. Stever, Chairman; D. C. Farr, J. E. Russell, E. A. Day, H. L. Wright, I. H. Polhemus, committee.

Williamstown, Mass., May 28th, 1872.

LITERARY.

Macmillian & Co. will shortly publish "The Oxford Bampton Lectures," for 1871. The subject is Dissent in its relation to the Church of England, and the author the Rev. G. H. Curteis, M. A., Principal of the Litchfield Theological Seminary.

Studies in Poetry and Philosophy.*—Principal Shairp's "Studies in Poetry and Philosophy" consists of four articles originally published in the North *British Review*. The first three are biographical sketches, respectively, of Wordsworth, Coleridge, and Keble with reviews of their literary productions. The fourth is an inquiry into the dynamic or motive power in moral life. They cannot properly be characterized as very original, very profound, or very brilliant. But they are marked by accurate observation, careful reflection and refined taste. They are the productions of a thorough scholar, a patient thinker, and a true Christian. The thought, if not deep and broad, is just and sound; it is clear and vigorous; it is popular and practical rather than abstruse and speculative. Purity of style, an easy and graceful flow of diction, and a natural, modest imagery help to place these articles in the first rank of recent essay literature in our language.

The biographical notices of the three poets and their works are carefully prepared. They are of course limited in extent, but present very full views of their subjects. The criticisms on their writings are intelligent and just. They will induce in the candid reader a new study of these great poets.

The philosophical disquisition deals in great fairness with former leading speculations on the fundamental questions in ethics, yet turns from them in disappointment and dissatisfaction. The intuitive theories of morals present a motive, high indeed, but remote and impalpable, not one that comes easily home to the hearts of ordinary men. Utilitarian theories in the narrower form present a motive—self-love—near and strong enough, but too low and unsatisfying, and in the wider form of universal benevolence, they present one that is elevated indeed but weak. The conclusion is that man

**Studies in Poetry and Philosophy.* By J. C. Shairp, Principal of the United College of St. Salvador and St. Leonard, St. Andrews. Author of "Culture and Religion." New York: Hurd & Houghton. 1872. 16mo, pp xvii, 340.

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must look above and beyond himself for the impulse and the help to rise. To the reality and availability of this source of moral strength, Principal Shairp points out separate lines of thought, all leading upward and all converging to one spiritual center. The enumeration of these lines is :—the mark of design on all outward things; the causal instinct or mental demand for a cause ; the aspiration after an ideal perfection ; the insufficiency of self for self ; the feeling of the derivative nature of our whole being ; and, lastly, the law of duty—the moral law, which is of all these marks of thought "the loftiest, the directest, the most inward, the most awe-inspiring." The conciliation of culture and religion is to be effected by first meeting the first and deepest need of man by bringing his will into contact with a will higher, purer, stronger than itself. The soul thus set right by allegiance to the all-righteous will and thus finding Christ as the life of individual hearts and the connecting bond of humanity, culture may be added without stint.

Hawthorne's Italian Note-Books.* We never catch Hawthorne's mind in undress. His journals no more than his romances are revelations of his inner self. If not written "with an eye suspicious toward posterity" they at least show how strong was the literary conscience which made him write carefully and beautifully even when writing only for himself. It is pleasant to miss the scrappy, slipshod manner and gushing confidences of the common journalizer ; and it proves a fine self-respect in the writer.

Perhaps this quality in Mr. Hawthorne's note-books comes partly from his custom of using them as raw material for his more elaborate works. Readers of the Marble Faun will turn with fresh interest to the descriptions, in that most brilliant of his fictions, of the delightful Villa Borghese, of Guido's Beatrice, and of the Catacomb of St. Calixtus, when they have found the studies or "plasters" of all these in the note-books. As for the Faun itself, we seem to assist in person at its creation, and "our heart leaps up when we behold" "a Faun, copied from that of Praxiteles, and another, who seems to be dancing, were exceedingly pleasant to look at. I like these strange, sweet, playful, rustic creatures, . . . linked so prettily, without monstrosity, to the lower tribes . . . . . Their character has never, that I know of, been wrought out in literature ; and something quite good, funny and philosophical, as well as poetic, might very likely be educed from them. . . . . The faun is a natural and delightful link betwixt human and brute life, with something of a divine character intermingled."

These Italian note-books are not quite so satisfactory as the English and American. Hawthorne's mind chose to seek the beautiful in its less obvious and more spiritual forms. In Italy beauty was thrust upon him by the gallery-and-church-full, till the crowded splendors dazzled and benumbed his spirit, more at home in coaxing the shy, in frequent charms of a soberer country to yield him something of their significance. He went through the galleries in a perfunctory way not understanding much, and with his wearied attention refusing to take in a tithe of what he saw. He was so bored that it gives something of tediousness to his page. He was not a very instructed or enthusiastic critic, and made up his mind with an amusing indifference to traditionary views. The "damnable iteration" of his disgust and disheartenment at the sight of grimy old masters is the most emphatic piece of criticism which he makes. He confesses to an honest and childlike love of bright colors, dwelling fondly on the brilliant toys of Benvenuto Cellini and on the gold-encrusted cross-beams and painted interstices of the heavy palace ceilings.

His mind seldom takes that unchanging and satisfactory impress of a great work of art which makes it a "joy forever ;" his momentary mood subdues the picture or the statue to itself. Naturally, therefore, in his unreceptive moods he distrusts the judgment formed when his nature was in a state of healthier tension. "To-day," he says, "the Venus (di Medici) seems to me a mere lump of yellow clay." It was the gift of his genius, however, that, when it really took a shock from another mind, it uttered responses far richer than ever fall from the lips of the stock critics. There was genius in the way in which he approached the painting or the statue, knowing and caring nothing about the *technique*, but trying to kindle some fire in his own mind that should answer the inspiration of the artist. We mention by way of example, his notice of Michael Angelo's *Fates*, and his Statue of Lorenzo the Magnificent ; and particularly of Guido's Beatrice Cenci—the thing in Italian galleries that seems to have cast the strongest charm about his mystery-loving soul.

With the true eclecticism of his genius, Hawthorne turned aside from the art of Italy, to seek and find fresher flavors in the by-paths of Italian life. Here his touch is not impatient and feeble as sometimes in the galleries, but lingering and minute as in his little Pre-Raphaelite foregrounds of English hedgerows, matted masses of leaf and bloom glistening and dripping softly under that gray English sky in which his soul found refreshment and beauty more than under the Italian blue. In these journals and in the Marble Faun, as nowhere else save in dear, delightful old Rogers, we seem to see Italy, as we read :—The white glare of the *Piazzas ;* the dusky church-interiors with their half-dozen silent kneelers at the chapels where the candles twinkle faintly on the altars ; The ancient houses, picturesquely discolored, of the Ponte Vecchio ; the white roads and verdureless landscape lying far and sharp in the lidless Italian sunshine ; The mediaeval hill-top cities, each with its wall, its narrow, high built street and its population of sturdy beggars ;—Arezzo, Pasi gnani, Radicofani—their ancient, musical names bring up whatever of dream or picture, remeniscence has been in our mind's Italy :—the vine-leaves on the stucco wall and the vine leave shadows on the sill—the

> "Small voices and an old guitar
> Winning their way to an unguarded heart."

These journals contain much agreeable gossip about literary and other people that Mr. Hawthorne met in Italy and at whose hands he submitted to more or less lionizing ; among others, the Brownings, Miss Bremer, Miss Hosmer, General Pierce and especially Powers the sculptor. The latter is decidedly the central figure of the book—not even excepting the author, for whom he seems to have had a strong attraction mixed with that curious *fierté* with which Hawthorn's shy nature resented the approaches of a more positive, or at least, more openly aggressive character. There is more of his personality in this and his mention of his friend Pierce than in anything else in the book.

For the rest there is much beautiful and characteristic, and some profound observation. As an instance of the former we may quote the following :

> We stood at the base of the Campanile, and looked at the bas-reliefs which wreathe it round ; and, above them, a row of statues ; and from bottom to top a marvelous minuteness of inlaid marbles, filling up the vast and beautiful design of this heaven-aspiring tower. Looking upward to its lofty summit,—where angels might alight, lapsing downward from Heaven, and gaze curiously at the bustle of men below,—I could not but feel that there is a moral charm in this faithful minuteness of Gothic architecture, filling up its outline with a million of beauties that perhaps may never be studied out by a single spectator. It is the very process of nature, and no doubt produces an effect we know not of. Classic architecture is nothing bur an outline, and affords no little points, no interstices where human feelings may cling and overgrow it like ivy. The charm, as I said, seems to be moral rather than intellectual ; for in the gem-room of the Uffizzi you may see fifty designs, elaborated on a small scale, that have just as much merit as the design of the Campanile. If it were only five inches long, it might be a case of some article of toilet ; being two hundred feet high, its prettiness develops into grandeur as well as beauty, and it becomes really one of the wonders of the world. The design of the Pantheon, on the contrary, would sustain its sublimity on whatever scale it might be represented."

As a specimen of the latter take *this* :

> "The highest, or perhaps, any high administrative ability is intuitive, and precedes argument and rises above it. It is a revelation of the very thing to be done and its propriety and necessity are felt so strongly that very likely it cannot be talked about."

This is as good as most of Emerson's. What he says of Nero on page 3 of vol. I, will be appreciated by the few among our readers who may have seen in a certain gallery a copy of the bust of Nero in the British Museum and who recall the terrible will and pride and scorn—the sensual but imperial beauty of the face.

Now and then there is a touch of Hawthorne's peculiar humor, as when be complains of some holy persons that their "odor is not of sanctity." And through all is that something, which, for want of a less utterly unmeaning word we agree to call his "style," so graceful,so quiet, so gentlemanly, so flexible to the slightest movement of his mind that we seem not so much to be reading a printed page as watching the play of Hawthorne's features and listening to the modulations of his voice.

BOOKS RECEIVED.

A Bridge of Glass. By T. W. Robinson. New York : Harper & Brothers, 1872.

Fables and Legends of Many Countries. By John G. Saxe. Boston : J. R. Osgood & Co., 1872, $1.50.

Olrig Grange. Edited by Herman Kunst. Boston : J. R. Osgood & Co., 1872, $1.50.

Shakespeare's Julius Cæsar. Edited by Wm. J. Rolfe, A. M. New York : Harper & Brothers, 1872.

A Brave Lady. By the author of "John Halifax Gentleman." New York : Harper & Brothers, 1872.

Studies in Poetry and Literature. By Principal Sharp. New York ; Hurd & Houghton, 1872, $1.25.

Principles of Geology. By Sir Charles Lyell Bart. M.A., F.R.S., vol. I. New York : D Appleton & Co,, 1872.

A Woman's Experience in Europe. By Mrs. E. D. Wallace. New York : D. Appleton & Co., 1872.

Three Books of Song. By H. W. Longfellow. Boston : J. R. Osgood & Co., 1872. $2.00.

The Life of Abraham Lincoln. By Ward H. Laman. Illustrated. Boston : J. R. Osgood & Co., 1872, $5.00.

A Satchel Guide to Europe. New York : Hurd & Houghton, 1872, $1.50.

Joseph Mazzini, His Life and Writings. By Wm. Lloyd Garrison. New York : Hurd & Houghton, 1872, $1.75.

Albert Lunel. By Lord Brougham. New York : Harper & Brothers, 1872. 75 cts.

The Life and Times of John Wesley. Vol. III. By L. Tyerman. New York. Harper & Brothers, 1872.

COLLEGE COMMENCEMENTS.

The following College Commencements will be held during the week to come. The list is made out partly from catalogues in our office and partly from the table of collegiate institutions in the last Report of Commissioner Eaton, Commissioner of Education :

College of St. Augustine, Benicia, Cal., Thursday, June 13th.
Blackburn University, Carlinville, Ill., Thursday, June 13th.
Lincoln University, Lincoln, Ill., Thursday, June 13th.
Shurtleff College, Upper Alton, Ill., Thursday, June 13th.
Westfield College, Westfield, Ill., Wednesday, June 12th.
Hartsville College, Hartsville, Ind., Tuesday June 11th.
Union Christian College, Merom, Ind., Wednesday, June 12th.
Salem College, Bourbon, Ind., Saturday, June 15th.
Simpson Centenary College, Indianola, Iowa, Wednesday, June 12th.
Tabor College, Tabor, Iowa, Wednesday, June 12th.
Cecilian College, Cecilian Post Office, Ky., Friday, June 14th.
Georgetown College, Georgetown, Ky., Thursday June 13th.
Kentucky University, Lexington, Ky., Thursday, June 13th.
Bethel College, Russelville, Ky., Thursday, June 13th.
Hillsdale College, Hillsdale, Mich., Thursday, June 13th.
University of North Carolina, Chapel Hill, N. C., Thursday, June 13th.,
Baldwin University, Berea, Ohio, Thursday, June 13th.
German Wallace College, Berea, Ohio, Thursday, June 12th.
New Market College, Scio Post Office, Ohio, Friday, June 14th.
Mercersburg College, Mercersburg, Penn., Thursday, June 13th.
Palatinate College, Myerstown, Penn., Thursday, June 13th.
East Tennessee Wesleyan University, Athens, Tenn., Wednesday, June 12th.
Cumberland University, Lebanon, Tennessee, Thursday, June 13th.

* Passages from the French and Italian Note-books of Nathaniel Hawthorne. Boston : James R. Osgood & Co., 1872.

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College of Arts, University of Nashville, Nashville, Tenn., Tuesday, June 11th.

Baylor University, Independence, Texas, Wednesday, June 12th.

Hampden Sidney College, Prince Edward County, Virginia, Thursday, June 13th.

The following Theological Seminaries hold their anniversaries during the coming week:

Bible Department, Eureka College, Eureka, Ill., Thursday, June 13th.

Theological Department, Shurtleff College, Upper Alton, Ill., Thursday, June 13th.

Theological School of Hartsville University, Hartsville, Ind., Tuesday, June 11th.

Theological Department, Georgetown College, Georgetown, Ky,, Thursday, June 13th.

College of the Bible, Kentucky University, Lexington, Ky., Friday, June 14th.

Diocesan Theological Seminary, Shelbyville, Ky., Thursday, June 13th.

Boston Theological Seminary, Boston, Mass., Wednesday, June 12th.

Newton Theological Institution, Newton Center, Mass., Thursday, June 13th.

OTTERBEIN UNIVERSITY, WESTERVILLE, O.,

To the Editor of the "College Courant:" The sixteenth annual Commencement of Otterbein University, was attended by a very large number of the alumni and other friends. One great attraction of the week was the dedication of the university building, completed last winter. This edifice is 170 feet in length by 107 feet in depth; the central portion being three stories high, and wings two stories, all having the Mansard roof, and tasteful ornamentation. In the building are large recitation, lecture and apparatus rooms, four society halls, library and reading-rooms, and a commodious chapel; and by competent judges it is pronounced the best college building in the state.

The exercises of Commencement week began May 26, with the baccalaureate sermon by President Eberly, from Proverbs IV:26.

On the evening of May, 27, were held the Anniversaries of the Philalethean and the Cleiorhetean Literary Societies, and on the following evening, those of the Philophronean and Philomathean Societies. These anniversaries, always a marked feature of Commencement here, were attended by large audiences, and highly appreciated.

Wednesday, May 29, was Alumni Day, and the public meeting was a full one. Reports from alumni in different parts of the country showed nearly all to be engaged in the most honorable literary pursuits, a majority being clergymen. Otterbein University is proud of her children.

Wednesday evening the annual addresses before the literary societies was delivered by Rev. S. W. Streeter, of Austinburg, O., formerly a professor in the university.

Thursday, May 30, was Commencement Day, the exercises being held in the chapel, which was literally packed, many persons being compelled to stand at the doors and in the halls and corridors. A class of fourteen graduated, and all acquitted themselves so well that the occasion was pronounced by those who had attended many Commencements, the best in all respects within their recollection.

The following order of exercises was observed, ex cellent orchestral music being interspersed: "Art—the Revealer," L. Hanby; "Life's Probation Task," F. E. Moore; "Unfulfilled," L. A. Resler; "Random-flown," S. J. Menter; "The Silent Revolution," A. B. Henderson; "Christianity in History," T. H. Kohr; "The Chrysalis," a poem, D. R. Seneff; "Emancipation from Labor," M. H. Ambrose; "Want of Sympathy," S. J. Flickinger; "Before and After," A. W. Jones; "Christian Philanthropy," George Keister; "Men for the Times," F. M. Kumler; "The Peril of the Republic," John Sherrick; "Graduating," Hanby Stahl.

The degree of Master of Arts, *in cursu*, was conferred upon W. Y. Butels, G. S. J. Browne, and J. P. Landis of the class of 1869. The honorary degree of M.A., was conferred upon I. L. Kephart, of Western College, Iowa.

Thursday afternoon the University building was dedicated with appropriate ceremonies, witnessed by a large audience, by Bishop J. J. Glossbrenner, of the church of the United Brethren in Christ. Upon the resignation of President Eberly, Prof. H. A. Thompson of Westfield College, Illinois, was elected president, and it is understood that he accepts the position.

J. E. G.

June 4, 1872.

COLLEGE RECORD.

Michigan University, (Ann Arbor, Mich.,)—The class day exercises of this institution were held on Wednesday, May 29. The morning exercises were held in the M. E. church, and consisted of the delivery of the oration by J. F. Dutton, of Ann Arbor, upon "The Forces of History;" and of the poem by W. A. Brooks, of Danville, Illinois, upon "The Twentieth Century," interspersed with music. The afternoon exercises were introduced by the reading of the class history, by W. T. Underwood, Lafayette, Indiana, and he was followed by the Prophecy made by H. Neuhoff, of Belleville, Ind. This was followed by the presentation of a dumb brass watch to the man who had never been known to be on time at any recitation, and the gift of a copy of Greeley's "What I Know About Farming," to the representative of the Farmers' Club. The singing of the class song and the dedication of the Class Ivy followed these exercises, and a supper in the evening closed the day. The following items from the class history are of interest: The class had 91 members the first year, 81 the second, 91 the third, and to-day there are 86 candidates for degrees, being 10 more than the class of '70, the largest class graduated up to this time, and 23 more than the class of '71. Of this number 60 are candidates for the degree of B. A.; 12, B. S.; seven, Ph. B., and eight want to be engineers. The class represents eight different States and Canada, as follows: Michigan, 52; Ohio, 7; Illinois, 7; Indiana, 6; New York, 3; Tennessee, 3; Iowa, 2; Wisconsin, 2, Canada, 4. The patriarch of the class is 30 years, 10 months and 27 days old; the infant 18 years, six months and 26 days. The average is 23 years, 6 months and 4 days. The heaviest member of the class weighs 192 pounds, and the lightest 107. Professionally 24 will be lawyers 15 teachers, 8 farmers, 7 engineers, 6 ministers, 5 men of business, 4 doctors, 5 journalists, 1 analytical chemist and 11 are undecided. As to the sex 84 are males, 2 females. Eight are in favor of woman suffrage, 68 opposed, and 10 don't care, 41 favor co-education, 40 do not, 5 are indifferent. In religion 16 are Methodists, 9 Presbyterian, 7 Orthodoxy, 6 Baptist, 5 Episcopal, 4 Congregational, 3 Free Thinkers, 2 German Reformed, 2 Lutheran, 2 Independent, 1 Deist, 1 Pagan, 1 Universalist, 1 Liberal, 1 believer in Dr. Cocker's Intuitions of the Reason, and 23 are undecided. The class have spent $135,746.70. The average cost has been about $1,746.

Williams College, (Williamstown, Mass.)—The varied exercises of Commencement week embrace many interesting features. The various addresses, orations, etc., that are to be delivered for the benefit of the students and the alumni, have appended to them names that give sufficient guarantee for their excellence. Sunday, June 23, Pres. Hopkins delivers the Baccalaureate Address to the Graduating Class; and Prof. Bascom, the address to the Mills Theological Society.

Monday evening the exhibition of the Adelphic Union Society is held. Class Day occurs Tuesday; the evening is given up to the Seniors' Promenade Concert and Class Supper.

Wednesday is Alumni Day. In the forenoon the Society of the Alumni, presided over by Hon. Jas. A. Garfield, holds its annual meeting; in the afternoon the alumni are entertained by an address from Hon. David A. Wells, on "The Relation of the Study of Political Economy to our natural, intellectual and moral Development," and a Poem by Prof. Carter, whose subject is "Hints of Immortality; Mediæval,—Ancient,—Modern." The Prize Rhetorical Exhibition, at which five Juniors and five Sophomores compete for five prizes ranging from $50, to $15, is held in the evening. The classes of '47, '52, '62, and '69, hold reunions.

Thursday, June 27, is Commencement Day. The Commencement "Honors" are as follows: valedictory, F. Wm. Fiske, Southbridge, Mass.; salutatory, John L. Tupper, No. Granville, N. Y.; philosophical orations, Luther D. Woodbridge, Perth Amboy, N. J., and Wm. H. H. Tuttle, Littleton, Mass. Besides these appointments, there are seven orations and twelve dissertations. In addition to the Commencement Exercises proper, the day is filled out with the alumni dinner, the inauguration of the new college president, Hon. Paul A. Chadbourne, and the president's reception.

At the exercises of Decoration Day, the students were represented by P. C. Chandler, of the Senior class, the Alumni by Geo. F. Mills, A.B., of the class of '62, and the Faculty, by Prof. John Bascom, who delivered appropriate and telling addresses.

Monday of this week was set apart as "Mountain Day" — a semi-annual occurrence, — and numerous parties of students availed themselves of the opportunity to climb to the summit of Mt. Greylock, enjoy the view of rare beauty spread before their eyes, and brace themselves by breathing the pure mountain air.

Boating and base ball both are objects of interest; but greater pride is taken in the former. A fine crew is in daily practice on the "placid waters of the Hoosac," and great confidence is reposed in their stalwart limbs and splendid exhibition of muscle. W. C.

June 3rd, 1872.

Wesleyan University, (Middletown, Conn.)—Our correspondent at Wesleyan sends us the following: You have published the names of the freshman crew which is to represent this college at the Springfield regatta, and I may say that they have been highly complimented by experienced men who have seen them on the river. Their trainer, Mr. Fred Synders, of New York, took charge of them this morning. Their practice boats are a shell (bought from Yale, '72) and a barge (bought of Wesleyan, '74.) George Roahr, of New York, the celebrated builder, is constructing their shell for the race. It is to be ready July 1st. Contracts for the new boat-house are being made, the city having kindly leased an excellent site for it, and we expect to occupy it before long. It is probable that a college crew will be sent to the races next year. Base ball is looking up. We have, again, through the courtesy of the city, an excellent park for a practice ground, and our base ball prospects brighten. The Freshman nine is open to challenges. They played the Trinity Freshmen, May 25th, on the Mansfield Park, beating them 25 to 17. Had the rain not prevented, they would have played the Amherst Freshmen, on Hampden Park, Springfield, Decoration Day. That match will occur June 8th or 15th. The sophomore nine is the champion of the college, though it is undecided how long they will retain the title, a Freshman-Sophomore match being looked for as soon as the Freshmen have sufficient practice. The Sophomores visited East Berlin, June 1, and were defeated by the Independent Junior Club of that place, 17 to 16. They have a new uniform and are desirous of playing matches. They play the Berlin boys a return game, June 22d, in this city. The college nine is in good order everywhere except in the pitcher's position. As it is, we played the Mansfields, three weeks ago, being defeated 26 to 11.

The approach of spring, in its enlivening influences, did not forget the finer sensibilities. No Glee Club has represented Wesleyan on the concert stage for several years previous to this. This spring an Arion Glee Club has been formed composed as follows: W. U. Pearne, '74, Oxford, N. Y.; J. B. Shepard, '74, N. Y.; E. P. Stevens, '74, Charlestown, Mass.; M. D. V. Church, '75, Jersey City; G. W. Hughes, '75, Northampton, Mass.; G. W. Nickerson, '75, Chilmark, Mass.; M. B. Crawford, '74, New York; J. R. Buckelew, '74, Brooklyn, N. Y. The club gave a concert at Essex on the evening of Decoration Day. An excursion train had

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been promised and a number had decided to accompany the club, but the rain interposed, and the club was comparatively unattended from here. The programme was excellent in selection and was finely performed, receiving the hearty applause and "come agains" of the audience and people. The club has secured the services of an experienced manager and will probably make a tour this summer. They are announced to sing in Cromwell, June 6th, and in McDonough Hall, Middletown, June 13th. The latter entertainment is for the benefit of the Freshman boat crew.

D. R. Baker, '72, represented the Middletown chapter of Alpha Delta Phi at Ann Arbor, last month. D. C. Porter, '72, and J. O. Sherburn, '73, represented the Chi of Psi Upsilon at the Convention at Amherst, June 5 and 6.

Mrs. H. M. Smith and the Temple Quartette of Boston will furnish the Commencement music.

Your correspondent hopes that "the press" will be favored with a copy of the "Boy Poet's Poems," when they appear. We have heard through the papers that such an effusion is to be published by a Wesleyan student, and we want to help introduce the second Homer to the world. COSINE.

Middletown, June 4th, 1872.

Yale College, (New Haven, Conn.)—Much of the news which usually appears in this column will this week be found elsewhere.

Several physical changes have been begun on the college grounds during a few weeks past and are now well forward toward completion. The steam pipes from the heating boilers back of Alumni Hall are to be extended so as to heat Farnam and North Middle colleges with the same apparatus. The heating apparatus now in Farnam has proved unsatisfactory and is to be taken out, and apparatus like that in Durfee and North college put in its place. The old north "coal yard" has also been entirely removed and the ground cleared up. The appearance of the grounds are much improved thereby and the empty space suggests the wish that some public spirited alumnus would seize the opportunity to erect a new dormitory there.

Two portraits of eminent benefactors of Yale have recently been added to the collections of the college. Prof. Salisburry's portrait has been hung in the library, and that of Mr. Farnam of New Haven has been placed in the Art Gallery. Both portraits were painted by Baker of New York, the same artist who painted the portrait of Ex-President Woolsey which now hangs in the Art Gallery.

The bill making amendments to the Alumni Representation Act of last year passed the Connecticut Senate last Tuesday notwithstanding the opposition of Mr. Perkins to which we alluded last week. The amendments were fully explained in the *Courant* of March 16th, No 296.

YALE PERSONALS.

'41, PINKERTON.—John M. Pinkerton, Esq., of Boston, who has long been Director of the American Education Society, was elected one of its Vice Presidents at the recent anniversary of the Society.

'45, ESTY.—Hon. C. C. Esty, of Framingham, Mass., has been appointed a member of the State Board of Education.

'48, COLTON.—Rev. Henry M. Colton, a well known resident of Middletown, Conn., died at his residence in that place Sunday afternoon, June 2d, after a long and painful illness. Mr. Colton was born in Royaltown, N. Y., in 1826 and was consequently 46 years old. He graduated high in his class and acquired his theological education at the Yale Divinity School. After a few years he gave up regular preaching and established a school for preparing young men for college, in which he was eminently successful. His remains were brought to New Haven for interment.

'53 HOUGH.—Rev. Jesse W. Hough, pastor of the Congregational Church of Jackson, Mich., was Moderator of the General Association of that state at its recent session in Hudson, Mich., beginning May 15th.

'54' HUBBELL.—Rev. Henry L. Hubbell, of the Congregational church at Ann Arbor, Mich., preached the opening sermon before the General Association at Hudson, Michigan, May 15th.

'55, PALMER.—Rev. Charles R. Palmer resigned his pastorate of the Tabernacle Congregational Church in Salem, Mass., May 26th, in order to accept his recent call to Bridgeport.

'60, PHELPS.—Mr. Wm. Walter Phelps, is named as a candidate for Congress in the Fourth district of New Jersey, instead of Mr. John Hill.

'63, SUMNER.—Rev. Wm. G. Sumner, rector of the Church of the Redeemer in Morristown, N. J., delivered the address at the recent celebration of Decoration day in that place. The address was printed in full in *The Jerseyman*, published in Morristown.

'66, BULKLEY.—On Tuesday, May 28, at the residence of the bride's parents, Bergen Point, N. J., by the Rev. Henry W. F. Jones, Lucius Duncan Bulkley, M.D., of New York city, was married to Kate La Rue, eldest daughter of Andrew D. Mellick, esq.

'67, ELLIOT.—C. S. Elliot for three years night editor of the New Haven *Palladium*, and who went last summer to the position of news editor of the Boston *Post*, has recently been advanced to assistant editor of the same paper.

'68, BREWSTER.—Rev. Chauncy B. Brewster, who was ordained at the recent anniversary of the Berkeley Divinity School, Middletown, Conn., preached his first sermon at St. Thomas church in New Haven, last Sunday evening. His theme was "The whole duty of Man."

'68, DEFOREST.—Rev. J. H. K. DeForest, who has recently been enjoying a five weeks vacation in Florida, has returned with recuperated health and spirits and resumed preaching at Mt. Carmel, Conn.

'69, DANA.—Mr. Samuel H. Dana, of the Senior Class in Andover Theological Seminary, is to preach at Newton Highlands, Mass., in connection with a new Congregational organization there.

GLEANINGS.

PERSONAL.

— Professor Stanton has resigned the preceptorship of Dummer Academy, at Byfield, Mass., with a view to appointment in a collegiate institution.

— James Kent Stone, formerly President of Hobart College, was admitted to minor orders in the priesthood, by Bishop Rosecranz, at Columbus, Ohio, recently.

— It is said that Miss Abbie Sage Richardson will probably accept the position of Professor of Elocution in the Normal School of Cook county, Ill., which has been offered to her.

— Professor Dimmock, of Williams College, resigns his position as professor of Greek, at the end of the present term, to take a much more lucrative situation as master of the Adams Academy at Quincy. It is not known who will fill the professorship.

— Dr. William Stimpson, Secretary of the Chicago Academy of Sciences, died at Ilchester, Md., on the 26th inst. His life had been devoted to natural science, and his researches and collections on the South Atlantic coast enrich the museums of several celebrated academies.

— Prof. Boise, of the University of Chicago, intends visiting Europe the coming summer, passing through Scotland, England, over to the Continent for a few weeks, thence home in time for the beginning of the next school year. Twenty or more ladies and gentlemen will accompany him.

COLLEGE.

— Some of the Amherst students are to partake in the celebration of the Peace Jubilee.

— It is said that one of the lady students in Colby University, intends to study for the ministry.

— The Shelby Female College, at Shelbyville, Ky., was burned on Thursday of last week. Loss, $15,000; insurance, $10,000.

— It is said that several changes will take place in the faculty of Dartmouth College at the next meeting of the Trustees.

— S. F. Pratt, of Buffalo, deceased, gave $30,000 to Hamilton College to endow a new professorship, but without further conditions.

— At the fifty second commencement of the Auburn Theological Seminary, recently held, the new library building the gift of Hon. W. E. Dodge and E. D. Morgan, was dedicated. The building cost $40,000.

— The portrait of Hon. George Bancroft, is to be added to the Phillips Academy, at Exeter. Dr. D. W. Gorham, one of the trustees of the academy, has resigned to take effect in December next.

— The Christian Fraternity, a society in the Phillips Academy, at Exeter, is endeavoring to form a library of religious works, and is calling on former members to either send books or money for the object.

— R. L. Stevens, S. E. Erving, and M. S. Shotwell, took prizes at the recent gymnastic exhibition in Princeton. The former was best in gymnastics, the second was strongest, and the third the most agile.

— Three thousand dollars are to be expended at once on casts for the Art Gallery at Amherst. The collection is to include, besides others, the most famous of the Elgin Marbles, the Ghiberti Gates and the Moses of Michael Angelo.

— The Adams Academy, which was founded by President John Adams in his native town of Quincy, as "a school for the study of the Latin and Greek languages," will open for the first time in September next. It is the purpose of the managers to limit the scope of the school to the single work of fitting boys for college,—and to do that in the most thorough manner. The course of study is to occupy four years.

— At a meeting of the Board of Overseers of Harvard College, held Wednesday, May 29, James Barr Ames was confirmed in the appointment of Instructor in History for the ensuing academic year, and John Fiske was likewise confirmed as assistant librarian for the same period. Mr. Charles Sargent Sprague was elected Professor of Horticulture.

— The following is the order of exercises for Commencement Week at Westminister College, Mo.: Examination begins Thursday, June 13. Address before the society of Religious Inquiry, by Rev. M. M. Fisher, D. D., Sunday evening, June 16th. Exhibitions of Philological Society, Monday evening, June 17th. Exhibition of Philalethian Society, Tuesday evening, June 18th. Address to the Literary Societies, by Rev. Dr. Halsey, of Chicago, Wednesday, evening, June 19th. Commencement, Thursday, June 20th.

— The Springfield *Republican* says: Amherst College has lost one of its best friends in Josiah B. Woods, who died at Enfield on the 15th, and one who might almost be called the second founder of the college. He not only raised in troublous times the money for erecting the Woods cabinet and Lawrence observatory, but enlisted the sympathy and influence of such men as Abbott Lawrence, and prepared the way for the first grant from the legislature, without which the institution must have gone down.

— The Harvard Class Races took place on Charles river last Saturday. In the first race, for second crews the Juniors won the prizes, silver goblets, over the freshmen by eight and three-quarter seconds, distance two miles. In the second race for first crews, the juniors won the Beacon cup and six silver goblets, over the freshmen and sophomores, the latter two fouling which caused them some delay. The juniors made the time in 22 min. 11 sec., the freshmen, in 22 min. 50 sec., and the sophomores, in 22 min. 55 sec., distance three miles.

— The closing exercises of Lombard University, at Galesburg, Ill., this year will be as follows: June 12, 13, and 14, Examinations, Sunday, 16, Baccalaureate Sermon. Monday evening, 17, Exhibitions of Junior Class. Tuesday, 18, A.M., Meeting of Trustees, and Anniversary of the Association of Graduates; P.M., Anniversary of the Zetecalian Society, Address by Mrs. J. M. Kerr; immediately following this is the meeting of the Woman's Association; in the evening, Anniversary of the Erosophian Society, Address by Rev. J. E. Forrester, D.D., Wednesday 19, Commencement,

— The anniversary exercises of the Hartford Theological Seminary will take place next week. The following is the programme: Members of the senior class will deliver addresses on Tuesday evening, June 11, in the lecture room of the Center church; the Pastoral Union of Connecticut will hold its annual meeting in the chapel of the seminary, at 2 o'clock, on Wednesday; T. S. Childs, D. D., Professor of Biblical and Ecclesiastical History, and M. B. Riddle, D. D. Professor of New Testament Exegesis, will deliver inaugural addresses on Wednesday evening in the Center church. Provision will be made for the entertainment of guests from Tuesday afternoon till Thursday forenoon.

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From Yale Courant, June 5.

YALE *vs* HARVARD

Last Saturday the appointed game between the rival universities came off at Hamilton Park, and with a result we believe as unexpected to both parties as it was disastrous to Yale.

If anyone previous to Saturday afternoon had presumed to say that the Yale Nine after defeating the professional Eckfords and Atlantics, were on their own ground and in their own sphere of batting, to be defeated by the crippled and weakened Harvards by a score of 13 to 32, we doubt not he would have been scorned as a croaker or a lunatic. But such nevertheless is the mournful tale whose particulars we herewith sorrowfully proceed to chronicle.

The Harvards arrived in New Haven via., Springfield, on the 8:30 train, and were taken in charge at the depot by the Yale men, who intended to requite their previous hospitality by taking them to their rooms and providing them with meals at the New Haven House. Captain White, however, wished to keep his men together and Yale had to be satisfied with a private entertainment given by the President of the club at his room, to such of Harvard's representatives as being unconnected with the Nine could afford to indulge in a little mild dissipation. Mr. Annan, the short-stop of the Harvards, was unable to accompany his Nine, being detained by his sickness of the week before, and on the side of Yale C. Deming, by a sprained knee was also compelled to give up playing his position.

The gentleman selected as umpire Mr. Bunce, formerly of the Charter Oak B. B. C. of Hartford, who having arrived on the 2:15 train both nines took the Nightingale at the Tontine. The day in the meantime which had opened clear and pleasant degenerated into a sort of mistiness in the afternoon. Yale lost the toss, a thing she has done with Harvard in every University game (five in number) yet played, and took her position at the bat. She made a good start, H. C. Deming making a fine two base hit after which three men got their bases with but one out, all of whose runs were lost by Bentley's stupid failure to hit the ball on three strikes. Harvard then went in on their muscle and on good batting assisted by a single error of Yale made five. To this they added three in the next inning, skunking Yale. Then Yale made a dash on Nevin's fine hit and made four putting out Harvard for one. This, however, was Yale's last show and Harvard by batting so safe and handsome that we have never at Hamilton Park seen it equaled by the best of professional clubs, fast widened the gap and at last by a score of 32 to 13, closed a tedious game of three hours and twenty minutes.

To say that such a result was unlooked for, but feebly expresses our sentiments. The Harvard Nine was almost entirely composed of men from three classes, each of which has been beaten by the corresponding classes here, and our Nine were short but a single man and in good order and spirits. Our fielding where we anticipated comparative weakness, up to the fifth inning was hardly behind that of Harvard. But at the bat where we hoped to show such strength, and that our rivals would show comparative weakness, we failed so deplorably, or rather Harvard succeeded so well, that the contest speedily became hopeless. Liner after liner was batted by Harvard, and if a sky ball happened to go into the field it was morally certain either to go beyond, or just out of reach of the fielders. We have reason to believe that their heavy batting astonished Harvard hardly less than ourselves.

Concerning individual plays, White clearly excelled on the Harvard side both at the bat and in the field, making no less than six magnificent hits and playing his position as catcher with all the coolness and success of Bush himself. The play of Tyler in left field and of Kent at first were also conspicuously good. On the Yale side, at the bat H. C. Deming and Nevin each did finely, but in the field no one unless it were Richards did remarkably well. In conclusion of the melancholy tale all we have to do is to reecho the mournful remark of a spectator that "We are not out of the *Bush* yet." In the meantime we pensively append the score as food for Yalensian digestion till next Saturday, when our Nine go to Boston for the return game, and we hope to report better things.

YALE.	O.	R.	HARVARD.	O.	R.
H. Deming, m.	1	3	Eustis, r.	5	2
Barnes, 1	5	0	Hodges, s.	2	6
Richards, s.	3	2	Tyler, l.	3	5
Payson, r.	5	0	White, c.	1	6
Maxwell, p.	4	1	Goodwin, p.	3	3
Bentley, c.	2	3	Reed, 2.	3	3
Nevin, l.	1	2	Estabrook, 3	4	3
Day, 2	3	2	Chisholm, m.	5	0
Foster, 3	3	0	Kent, 1.	1	4
Total,	27	13	Total,	27	32

INNINGS.	1	2	3	4	5	6	7	8	9
Harvard,	5	3	1	3	1	6	3	7	3—32
Yale,	1	0	4	0	2	1	2	0	3—13
Harvard,	5	8	9	12	13	19	22	29	32—32
Yale,	1	1	5	5	7	8	10	10	13—13

Umpire, Mr. Bunce, Charter Oak B.B.C.
Runs earned, Harvard 8, Yale 5.

SOCIETY ELECTIONS.

The Sophomore Societies gave out their elections on Saturday, June 1, and the Junior Societies last night (Tuesday, 4,) with the following result:

PHI THETA PSI.

A G P Atterbury, D H Jones,
E S Atwater, H J McBirney.
A G Beardsley, N Martin,
S R Betts, H R Mead,
J H Brooks, M Phister,
C F Cutter, L F Reid,
B H Davis, D Roosa,
F L Grinnell, C F Russ,
M Grinnell, T R Selmes,
G H Holden, H Strong,
G Howard, G Underwood,
S J Huntington, G Williams,
S Isham, E H Woodbridge,
A F Jenks, J Yard.

DELTA BETA XI.

H S Barnes, F H Jones,
H P Bell, W H Jordan,
T H Carrington, E H Landon,
C T Chester, F T McClintock,
J S Clarke, A T Metcalf,
G Collin, F B Mitchell,
R T Cook, W D Page,
R W Day, T Patton,
F Dudley, T A Post,
H S Gulliver, W W Seymour,
H M Harding, A Y Smith,
Z S Holbrook, C R Smith,
W H Hotchkiss, C Tillinghast,
A S Irwin, E H Weatherbee.

PSI UPSILON.

T M Adams, W Kelly,
P Barnes, D A Kennedy,
S C Bushnell, L Melick,
H H Chittenden, E Mendell,
T D Cuyler, C W Minor,
E R Dunham, G E Munroe,
J A R Dunning, F H Olmsted,
T G Evans, A W Patten,
G L Fox, R H Platt,
T W Grover, A B Thacher,
W S Halstead, J M Townsend,
H P Hatch, B VanHorn,
C E Humphrey, R Walden,
F Jenkins, C R Walker,
R W Kelley, T P Wickes,
J Wilson.

DELTA KAPPA EPSILON.

O F Aldis, F G Ingersoll,
J L Beaver, H A James,
H D Bristol, C F Joy,
R S Bussing, C Maxwell,
H H Cabot, A B Nevin,
G L Dickerman, W Parkin,
A M Dodge, R A Porter,
G F Doughty, H H Ragan,
H W Farnam, E D Robbins,
F W Foster, J C Sellers,
H G Fowler, E W Southworth,
G M Gunn, H B B Stapler,
C J Harris, C D Waterman,
D C Holbrook, J B Whiting,
D R Howe, F S Witherbee,
J. S. Wood.

'75 has procured a new and handsome uniform preparatory to playing Harvard '75. The game with the latter comes off a week or two hence.

The return game with Harvard comes off next Saturday on the Boston grounds. Game will be called at 3 P. M., and one of the Boston nine will officiate as umpire.

Rumor tells us that the Porter Prize of $250, for the best essay upon a given subject has been awarded to C. J. H. Ropes of '72. The essay written by J. H. Hincks of the same class received however very high commendation from the judges for its striking originality, although not showing the same amount of deep and scholarly research as the successful essay.

The Glee Club has, we believe, decided to make another tour this summer, that of a year ago having been so successful in almost every particular. We are very glad that they have so determined and wish them every enjoyment and success.

YALENSICULA.

The grass on the campus needs mowing badly.

The large picture of the class group has arrived and opinions are divided as to its merits.

The canker worm taketh his annual gastronomic recreation on the wide spreading elm.

75 have concluded both to row and play ball with Harvard 75.

Next week we shall be able to announce the speakers for commencement.

The new Scientific School building has got up to a height of one story.

Mr. C. P. Otis, late tutor, was in town during the past week. He has just arrived from Berlin where he has been pursuing a course of study.

The seniors of Farnam driven to desperation by pertinacity of the old clothes dealers have adopted the "water cure" policy and douse every one of them that approaches.

It is said that the division of the Senior class which is to have Schwegler in the morning, bows perceptibly lower at prayers than the rest of the class.

A scrub nine of Juniors met a nine of Scientifics on Hamilton Park, last Saturday, with a result of 32 to 20 in favor of the former after playing eight innings.

Two of the "younger members of the faculty," stood behind an energetically profane senior at the match, Saturday, and pensively looked as if they thought so, too.

Seventeen essays were handed in for the Townsend premiums, the longest occupying fifty-six pages. The result of the competition will be announced toward the end of next week. Profs. Newton, Northrop and Packard are the committee of award.

We have it from a reliable source that one of our most prominent Theological boys on hearing the result of the match at the Park, on Wednesday, gave it as his opinion that the use of the English "*darn*" was perfectly admissable once every year at Yale, and this year would probably be twice justified.

The examinations for the DeForest scholarship and Winthrop prizes were concluded Tuesday noon. There were only three competitors altogether. A. H. Allen, Denslow and Green tried for the DeForest, and Cowles, Crocker and Tarbell for the Winthrop. One of the contestants beat a retreat from the Hall after one look at the questions.

W.—Professor Wheeler, my chum, now in exile in Milford, is moving in the first circles of the best society and wishes to come to New Haven, Saturday to obtain proper apparel to adorn himself withal.

Prof.—I suppose the ball match has nothing to do withal.

W.—No, sir, it is merely a coincidence that he happened to choose that day.

He came Saturday.

TO THE ALUMNI
OF
PHILIPS EXETER ACADEMY.

The Trustees invite all those who have been connected with or are interested in this institution to attend the dedication of the new Academy at Exeter, N H., on the 19th of June next, and to join in commemorating the completion by the venerated Principal of fifty years in its service.

An address will be delivered in the Hall of the new building at 11 o'clock, A. M., by the President of the Board of Trustees; and a dinner, at which John G. Palfrey, LL D, has consented to preside, will be served at 2 o'clock P. M. Tickets for the dinner, at $2.50 each, may be obtained at the bookstore of C. W. Sever, Cambridge, or from the undersigned at Exeter; and in order that suitable provision may be made for those who desire to attend, they are requested to make early application for them.

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THE COLLEGE COURANT.

VOLUME X. SATURDAY, JUNE 15, 1872. NUMBER 24.

HARVARD UNIVERSITY.

Harvard has recently issued a large edition of its annual catalogue for the current year and has sent them abroad liberally. This action is but a part of a very general advertising which the University is carrying on, and shows, as it seems to us, a most commendable enterprise and zeal. Harvard of all the great educational institutions of the country, seems most fully to appreciate the modern method of doing business. Time was when it was the custom to fill up a store with goods and then sit down and wait for buyers. But this way of doing business is out of date except, perhaps, in some very quiet country towns. It can hardly be doubted,we think, that the business of to-day is done by going after it, instead of waiting for it to come. And there seems no good reason why an institution engaged in educating young men for future usefulness, should not conform to the times in which it exists in this particular as well as in its courses of study or its methods of discipline. This, Harvard is doing, and her success in attracting students and enlarging her borders seems to justify her policy. Whether this success will be short-lived, whether the mistakes which seem almost inevitable in the management of so large a concern will bring about a reverse, or whether some of the distinguishing characteristics of her general policy will not—as seems possible if not probable—induce a decline—these things time alone can determine. Meanwhile all interested in higher education, cannot but watch with a deep and growing interest the daily work of the institution ; her progress in a material direction and in the opportunities she is able to offer for culture; and the results of the educational experiments which are in progress under her supervision.

The appearance of the catalogue above referred to seems to offer an opportunity for some statements in reference to the institution, based upon it, and the annual report of the President and Treasurer. We doubt whether there are a dozen persons outside of the graduates and immediate friends of Harvard, who have any clear idea of the magnitude of the institution or the advantages for study which it offers. We will therefore endeavor to present it in this light, premising that the statements are drawn from documents prepared under the authority of the college and are not therefore the testimony of an outside party.

The whole number of the faculty in all the departments of the University is 136, including the appointees to lectureships in the various departments. The whole number of students as given in the summary of the catalogue is 1214. This number is a little less than the number for the year 1870-'71, the total in that year being 1316. There has been an increase, however, since the catalogue of '70-'71 was issued, in the number of students in the Academical Department, in the number of Resident Graduates, in the Bussey Institution, and in the Episcopal Theological School. There has been a decrease in the number of law students, and divinity students, in the students of the Scientific and Mining Schools, in the Medical School, and in the number of persons attending University Lectures. The Graduate Scholars and Dental Students show no change.

This body of faculty and students may be said to be spread over sixteen different deparments, which we will briefly notice. The Academical Department has 35 members in its faculty and 621 students. The requirements for admission to this department can of course be learned by those interested, from the catalogue, and it is sufficient for us to say that they are higher than in any other American college. Being admitted to the college, the student during the first year pursues a required course. During the last three years the studies are largely elective. In sophomore year, however, seven and a half hours a week are devoted to required studies, in junior year, six hours a week, and in senior year one lecture a week must be attended for a half-year. To occupy the remaining time the sophomores must take eight hours of electives, the juniors, nine, and the seniors, twelve. And in order to give breadth to the culture obtained, and prevent too great devotion to any one topic, eight courses of electives are provided for the seniors and juniors, and seven for the sophomores ; to any one of which not more than three hours a week can be devoted by the seniors and juniors and not more than two by the sophomores. These courses for the two upper classes contain studies in The Classics, Philosophy, History, Modern Languages, Mathematics, Physics, (including Chemistry), Natural History, and Music. The sophomores have no elective in History. There is also a certain mingling of courses in the different years, as for instance, a senior may take any junior or sophomore elective in Mathematics which he has not already studied, or a junior may (with the permission of the department) take any one of the senior courses in Greek or the senior course in Latin.

A Sophomore, therefore,in addition to his seven and a half hours of required studies per week, must devote at least two hours each to four of the courses above mentioned. In like manner the juniors, in addition to their six hours of required studies, must devote three hours each to at least three of these courses. And the seniors must take four, giving each course three hours per week, in addition to his one lecture a week.

This is not the place nor the time to discuss the merits of the elective system. But the advantages for study which are offered in this course in Harvard, are truly admirable, and it would seem that the amount of time, required to be used in the different courses ought to be an entire safeguard against superficiality in study on the one hand, and waste of time on the other. No course of study or allotment of time on paper however, can accomplish both of these results, and every college professor knows that the most strenuous exertions of a living man are unavailing to entirely check the one or prevent the other. But we withhold judgment upon the system until longer trial and more thorough observation shall have given us the right to speak with more authority than we can do at present. One consideration however which has recently forced itself upon our attention, may be worth mentioning. Where the fixed curriculum is employed, the studies are all laid out for the student and he has no necessity to think of what he shall take next, and consequently no choice to make. And just here it seems to us one valuable means of discipline is lost. The student has no responsibility and consequently cultivates no self-reliance. He is not required to think for himself and so does not think for himself. The elective system on the contrary throws the responsibility of the student's course in college, in a measure at least, upon himself, and in so far as it cultivates within the student a habit of relying upon himself, and of deciding for himself, in so far it seems to us preferable to the fixed curriculum. A habit of self-reliance and decision of character are among the most valuable acquisitions of youth, and that institution does its work of preparation for future life best, which without loss in other respects turns out men well prepared in this one. And this from our observation we judge to be one of the effects of Harvard's elective system upon her students.

The estimated annual expenses at Harvard, which include instruction, room rent, board, text books, etc., present an average of $467, with the extremes of $353 and $581. Miscellaneous and personal expenses of course cannot well be estimated, but few students, we anticipate, who pay all their bills, would get along with less than one half more than the average given above. The statement is made however, that those persons of slender means, who show capacity and character, need not leave college for want of money. And to warrant this assertion there are seventy-seven scholarships varying in income from $40 to $300 each, besides $750 in other beneficiary funds, $1,200 in monitorships, and $905 in prizes, which are given to those considered worthy to enjoy them. In addition to these about $2,000 a year, the interest on a loan fund, is lent to those desirous of receiving it. Counting this latter, the whole amount bestowed each year in assisting needy students is $21,490.

The Divinity School of Harvard has a faculty of eight, besides lecturers, and thirty students. The course of instruction lasts three years and upon the completion of this the student receives a certificate of graduation. The report of the President regrets that the Divinity School has not maintained its former standard in the matter of the preliminary training of the students. Formerly graduates of colleges were a great majority of the students, but latterly, admission to the school has been continually made easier in this regard. A movement in the opposite direction has, however, been inaugurated quite recently and it is asserted that there is reason to believe that henceforth the school "will steadily rise as regards the preliminary education of its students." The estimated expenses are $268 a year ; and these include only room, tuition, board and fuel. Considerable pecuniary aid, however, is furnished. Most of the text books used are furnished on loan, and the heavy furniture of a room goes with it.

The Law School has a faculty of four and five lecturers, and a librarian. The students number 144. The instruction is given by recitations, lectures and expositions, moot courts, and by cases assigned to students for written opinions. The admission to the law school is very easy, no examination or previous study being required, but if the student is not a graduate he must be at least nineteen years old. The degree of Bachelor of Laws is conferred on those found fit to receive it. Students who do not wish a degree are permitted to enter at any time and study what they choose. The estimated expenses including the same items as before mentioned, are from $305 to $514 a year. There are eight scholarships of the value of $100 each for meritorious students. The law library is claimed to be one of the best in the country and the best among the libraries of law schools.

The Lawrence Scientific School numbers eighteen in its faculty and has 27 students. The courses of study have been arranged for three classes of students : those who desire a practical education ; those who intend to be teachers, and those who wish the higher degrees of Doctor of Science and Doctor of Philosophy. For the former there is a four years' course in Civil and Topographical Engineering, terminating in the degree of Civil Engineer ; a three years' course in Chemistry, leading to the degree of Bachelor of Science ; a three years' course in Natural History, yielding the same degree ; and a three years' course in Mathematics, Physics and Astronomy, which also gives the same degree. College graduates are expected to be able to enter these courses one or two years in advance. The course for those intending to be teachers is a one year course in the elements of Natural History, Chemistry and Physics. A certificate of attendance is given upon examination. The instruction for advanced students who are aspiring to the degrees of Doctor of Science and Doctor of Philosophy, is in Physics, Chemistry, Zoölogy, Geology, Botany, and Mathe-

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matics, and the degrees are conferred upon those who fulfill the prescribed conditions. An examination is required for admission to the courses in engineering, and in Mathematics, Physics, and Astronomy. To the other courses admission may be obtained without examination. The expenses are estimated at from $236 to $502 a year, and for needy students there are four annual scholarships valued at $150 each.

The School of Mining and Practical Geology has a faculty of eleven, and five students. The object of the school is to give instruction in practical Geology, the art of Mining, and kindred branches. The course of study occupies four years and terminates in the degree of Mining Engineer. The course of study for the first three years is identical with that of the Engineering course in the Lawrence Scientific School, the terms of admission are the same, and the expenses are put under the same estimate. The fourth year of the course is devoted more especially to Geology, Mining, and Metallurgy, etc.

The Astronomical Observatory has two members in its faculty, and three assistants. The objects of the Observatory are in general to promote the knowledge of Astronomy and the kindred sciences. Instruction in Practical Astronomy and the use of Astronomical Instruments can be obtained from the director of the Observatory and his assistants.

The Medical School has a regular faculty of 25, and 5 other additional instructors. The students number 203. The Medical School is established in Boston in order to secure the clinical advantages which only large cities furnish. The plan of study of the school has been radically changed within a short time. The instruction is now given by lectures, recitations, clinical teaching and practical exercises distributed uniformly throughout the academic year, and the student is expected to attend just as in any other department of the University. The course takes three years and is claimed to embrace all the recognized subjects of a good medical education. In such subjects as anatomy, chemistry, etc.; laboratory work is required in addition to lectures. And in order to obtain the degree of Doctor of Medicine every candidate must pass a satisfactory examination in every one of the main subjects of medical education. There can be little doubt that the action of Harvard in thus rendering her course of medical study more thorough, will be of immense advantages to the profession and will have a wider influence than upon her own graduates. The step seems to us worthy of great commendation. The advantages for obtaining a knowledge of operative surgery in connection with this school, are claimed to be very great. In the Hospitals to which the students have access, nearly two thousand operations are performed in the course of a year, and thousands of patients with almost every variety of disease are annually treated under the observation of the students. The annual expenses connected with the school are $205, to which $30 should be added for. graduation. Prizes of the value of $500 are given for dissertations on prescribed subjects.

The Dental School is provided with a regular faculty of ten, and other instructors to the number of 5. There are 27 students. The studies of the dental students coincide in Anatomy, Physiology, Surgery and Chemistry, with the course in these branches which is required of the medical students, and they have also instruction in Operative Dentistry, in Dental Pathology, and Therapeutics, and in Mechanical Dentistry. Students likewise have an opprotunity of operating at the chair. The degree of Doctor of Dental Medicine is conferred upon those who have pursued dental studies three years. The fees for a year are $150, and a matriculation fee of $5,00 paid but once.

The Bussey Institution has 14 names in its faculty, and 18 students. This institution is designed to be a school of Agriculture and Horticulture, and aims to give instruction in Agriculture, Useful and Ornamental Gardening, and Stock Raising. The regular course of study for those who wish to take a degree covers three years. The instruction of the first year is given in the Lawrence Scientific School and is calculated as a basis for the more practical studies which are to follow. The instruction in the second and third years is obtained at the Bussey Institution in West Roxbury, and comprehends the Theory and practice of Farming, Horticulture, Agricultural Chemistry, Applied Zoölogy, Entomology, and Quantitative Analysis. The fees and expenses vary according to the course taken, but it is announced that the tuition of needy and meritorious students will be freely remitted.

The remaining departments of the University may be briefly noticed as follows: The Episcopal Divinity School has a faculty of 4, and 13 students. Board, washing, fuel, and light are the only expenses except personal ones which the students have to provide for.

The Peabody Museum of American Archæology and Ethnology is an institution to which has been assigned the triple object of forming and preserving collections; of securing a professor who shall have charge of the collections and deliver lectures on subjects connected with them, and the erection of a building for a museum. This museum is not yet undertaken for want of funds and the professor has not yet been appointed. Collections have been, and are being made.

The Museum of Comparative Anatomy, is under a board of Trustees, has a faculty of five and a board of officers, consisting of the Curator who is one of the faculty and ten assistants. The collections as far as arranged are open to the public.

The University Lectures for 1871-'72 embrace 33 courses and are attended by 119 persons, besides those who attend but belong to some other part of the University.

There are also two graduate scholarships, which both have occupants. The one enjoys the income $10,000 and devotes himself to advanced study, not connected with Law, Theology or Medicine; and the other receives not exceeding $800 of the income from $20,000 and devotes himself to such advanced study as he may select with the approbation of the Corporation.

Bachelors of Arts, Bachelors of Science, and Bachelors of Philosophy may pursue elective courses of study at the University with a view of taking the degree of Master of Arts, Doctor of Philosophy or of Science. For these, courses of electives in Philology, Philosophy, History, Political Science, Mathematics, Physics, (including Chemistry), Natural History, and Music, more advanced than those offered to undergraduates have been prepared.

After the commencement of 1872, the degree of Master of Arts will only be conferred upon examination. At least one years' study is required, in order that it may be taken. The degree of Doctor of Philosophy requires two years' study by one who has taken the Bachelor's degree, and the degree of Doctor of Science, three years for the same class of persons.

The library of the college contains 128,000 volumes, and the libraries of all the departments of the University show a total of 192,000.

In conclusion we may say that it is impossible to read the report of the President and to look over the catalogue without being impressed with the enterprise, zeal, and we might almost say push, of the institution. And whether Harvard is making mistakes, as some critics assert, or not, may be left undecided at present, but of her progress and of her determination to move forward there can be no doubt.

MODERN LANGUAGES IN THE AMERICAN COLLEGE.

A writer in the June *Galaxy* under this heading discusses at some length the question of the place and time that should be assigned to the modern languages in modern courses of study. Indeed, the whole discussion is reviewed, and the various points settled to the satisfaction of the writer, if not to the satisfaction of all. President White is cited as an *advocate* for the substitution of French and German *for* Greek and Latin in the college curriculum, and President Porter as the defender of the Ancient Languages. The writer inclines to the view that the latter should be retained in any well balanced course of study and defends them, among other reasons, on the ground that it is impossible to understand French and German Authors without a knowledge of the ancient mythology etc., which comes through the study of the ancient languages. He claims however that the literature of modern France and Germany has merit of its own sufficient to justify its study. The conclusion is therefore that neither the modern languages are to eject the classical nor be ejected by them. This being conceded, how shall each get their due share of time and attention? This question is answered in the quotation which we make below from the article in question. But before attempting this answer the author disposes of the objection that Latin and Greek should be learned before French and German because the French is an off-shoot and descendant of the Latin and therefore the former should be learned before the latter according to the proper order of things. Say the advocates of the old method, the scholar who has mastered Latin has mastered with it nine-tenths of his French vocables and syntax and all that he will have to do in subsequently studying French will be to modify and develop what he has already acquired. This argument the author meets by claiming in the first place that the analogy does not hold true in the case of Greek and German, and in the second place that we do not learn palæontology before anatomy and zoölogy although the former is the history of animal forms which have preceded those with which modern anatomy and zoölogy busy themselves. The writer then continues as follows:

How then shall French and German be made to take the place of Latin and Greek in primary instruction? Perhaps the best way of meeting the question will be to construct an ideal curriculum. The age for commencing might possibly be fixed at ten—at all events, not later than twelve. The pupil may take up at this age one modern language (on several grounds German would be found preferable), and pursue it alone for eighteen months. Care should be taken to insure, through persistent repetition, fulness of vocabulary and accuracy in grammar and pronunciation.* At the end of eighteen months the other modern language may be added, and the two continued jointly in equal shares. At the age of fifteen the pupil may begin Latin, and at sixteen, Greek. No one, however, should be allowed to pass over to Latin who has not first mastered thoroughly the principles of the two preceding languages. During the years after fifteen, while the stress is, and must be laid upon Latin and Greek, the pupil should preserve and extend his acquisitions in French and German by careful reading on alternate days. Such a curriculum, if faithfully and presistently carried out, will give him at the end of his eighteenth year—the average age of entrance in our older colleges—all the linguistic training that he needs for deriving the fullest benefit from his college course. He will have had three years' preparation in Latin and two in Greek, after his mind, be it observed, had already been trained to linguistic study, and will have had a continuous, progressive preparation of six and four and a half years respectively in the two great, living languages of Europe. The result, too, will have been effected without encroaching upon the time necessary for mathematical and other studies. The proposed curriculum will require the following number of hours; from 12 to 13½, four hours per week for German; from 13½ to 15, eight hours for German and French; from 15 to 16, four for Latin and four for German and

* It would exceed the limits of the present article to even attempt to develop the advantages of this early training of the organs of speech to foreign sounds and accent. Suffice it to say that phonetic instruction is an essential feature of the system, and yet here more than anywhere else do the classic languages betray their weakness, not to say complete insufficiency.

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French. For the time after 16, when Greek is introduced, no general curriculum can be safely offered upon paper. At this age, differences of taste and life-aim begin to manifest themselves. The school should take these differences into account, and mould its instruction accordingly. It may be assumed with confidence that those who study Greek at all do so from a fondness for linguistic and literary studies, and are willing to devote to them a large share of time.

Such a curriculum, aside from its spirit of development and its thoroughness, has one other important merit. It is practical and can be made to adapt itself to the wants of almost all classes of scholars. There are many boys, and young men, and the number is steadily increasing, who have no desire to study the classics. They have in view to fit themselves for the practical pursuits of life, as engineering, technology, etc., or even for business. At the same time they wish to receive as complete an outfit as possible. Under our present system, such persons are practically excluded from our preparatory schools and academies, where the curriculum is inverted and Latin and Greek are made the prominent features. It seems desirable, certainly, that in a country like America, where the tendency to homogeneity is so weak, to encourage it in every legitimate way. Preparatory schools and academies, as now organized, are unable to suit more than one class of pupils—those who intend pursuing the ordinary college course. There is no valid reason, however, why they should not be made all-com prehensive, why our private schools and common schools should not be reduced to a uniform system, meeting the wants of all who wish to rise beyond the rudiments of reading, writing and arithmetic. We may well ask ourselves the question, whether we are not committing a grave mistake by drawing too early in life the line of demarcation between our two great classes of students,those aiming at the *humaniora* and those having in view technology and science; whether it is not more natural and more economical to have but one set of schools and classes, and keep all our boys together under one system until they have reached the age of fifteen or sixteen. Up to this age the general preliminary training may be alike for all. After this age has been reached, and tastes and capacities begin to diverge, will be the time for ramifying the school into courses of special preliminary training. In this way alone can we hope to make our schools theoretically correct and at the same time practical. So far as French and German are concerned, they present an uncommon blending of theoretical and practical value. As has been shown, or attempted to be shown,they are not inferior to Latin and Greek,but rather superior for primary education in language. On the other hand, their practical value is inestimable. The ability to read French and German has now become indispensible in all branches of study and research. The classical scholar and historian, the chemist, the physiologist, the doctor, the theologian, will often find their best, perhaps their only sources of information in those languages. The proficient in them feels continually that he holds within him a great living power, while he who knows them not feels hampered at every turn. No one will deny, of course, that the student who has mastered Latin and Greek can speedily master French and German also. That is scarcely the fair way, however, of looking at the entire case. The point is, whether all four languages may not be learned more easily, more practically, and quite as thoroughly, by reversing the traditional order of study, and whether, to a great many of us, learning Latin in order that we may learn French is not, to recur once more to Franklin, paying dear for the whistle. Considered as practical subjects, French and German may be said to be obligatory upon all men of education. The same cannot be claimed for Greek, or even for Latin. If,then,we have two sets of languages, having about equal theoretical value, but one having an additional practical value for all classes of students, shall we not rather begin with the latter? In so doing we act in conformity with the demands of the age, and we do no violence to the processes of nature. We not only train our boys, but we give them a serviceable outfit. And we do not ignore the weighty claims of the classics. We only defer them until the youthful mind is prepared to take them up and appreciate their importance. Above all, we avoid the blunder of laying down the classics as a sort Procrustean bed according to whose proportions all our boys are to be trimmed or stretched. We reserve Latin and Greek for that mind to which they are peculiarly adapted, the mind that has already had some foretaste of language and literature, whose sympathies are already quickening and taking a decided literary and æsthetic bias.

The preliminary question as to the position to be occupied by French and German in our schools having been thus treated, there still remains the main question as to the status and scope of the languages in a collegiate course. It might be asked just here: According to the above-proposed curriculum, our collegians have already had from four to six years of preparation in modern languages; what, then, is left for them to do in college? The query suggests itself, as it were, and yet it is enough to provoke a smile from the zealous student of modern thought and literature, and to elicit the counter question: What is meant by a course in literature as distinguished from a course in language? The proposed curriculum considered French and German merely as languages, as modes of expression, to be learned partly for practical purposes, partly for linguistic discipline. But familiarity with a language does not imply knowledge of the thought, literature, and culture embodied in that language. There are millions of Germans and French who speak their respective languages with fluency and accuracy, and yet who have very vague notions upon literature. Teaching an American boy French, for instance, merely puts him on something like an equal footing with a French boy of the same age and social standing. But it gives him no literary ideas or culture. His mind has been disciplined; a new door to the temple of knowledge has been opened to him. But opening the door is not entering. The youth of eighteen who has studied French and German for six years, has merely qualified himself for the subsequent study of French and German thought—not language—as that thought has embodied itself in the literary masterpieces and in the history of the two peoples. And it is this study of literary and national thought which alone constitutes a fitting theme for the college curriculum. We hazard nothing in believing that in by far the majority of minds there is not, before the eighteenth or nineteenth year, sufficient maturity or experience to qualify the pupil for studying literature as literature. When the feeling for style and character, however, does arise, it should have full play. The student, now happily beyond mere grammatical and lexical difficulties, is ripe for the enjoyment of the great writings of the great minds of continental literature. The college course can aim at copiousness of reading, and still more at cultivating the art of translation. The collegian, under proper guidance, may thus be made to acquire the ability of making a rendering that shall be at once close and in harmony with the idiom of the mother tongue. The college will then become a nursery of good translators, and consequently of good writers; for it is generally conceded that persistent and carefully supervised practice in translating is the best training for original composition. In addition to this literary culture, moreover, and even above it, the college course should aim at a careful study of the intimate relations between national literature and national life. In every course in letters, whether ancient or modern, the study of political and social history should be the constant attendant and guide of pure literature. We may even doubt whether there is such a thing as literature or literary study disconnected from history. Every great writer is at once a force and a result. He moves by virtue of his own inherent individuality, but he is none the less a creature of circumstances. A Goethe, for instance, would be scarcely possible in Germany of to-day; to imagine Heine as existing in any other epoch than the first half of the present century, is inconceivable; and the most vivid imagination could not disassociate Racine and Louis Quatorze. In many instances, indeed, the literary critic has to demonstrate to his neophytes that the so-called creative imagination, even in its higher forms, is little more than a sort of umbilical cord—if such an expression be allowable—through which the mother-folk has fed her art offspring.

THE UNIVERSITY OF STRASBOURG.

[The following in reference to the recent opening of the University of Strasbourg is from the correspondence of the New York *Observer*.]

All Germany celebrates to day her victory over France in a festival which is symbolical of the character and the consequences of that triumph—by a national convocation of Science, Letters, Arts, Religion, to congratulate the city of Strasbourg upon the reopening of her ancient University. It was French Jacobinism, in the first Revolution, that strangled this University as "a German Hydra, which had never become nationalized as a French institution, but which presented the astounding spectacle of servility to German ideas under the very eyes of the Republic, and in a land of French liberty." And now that German *ideas*—the training and development of her people which Germany has effected through her schools and universities—have triumphed over the superficial civilization of France, it is fitting that the victory should be celebrated by a national homage to Science in what was so lately a focus of war. Whatever may be done to strengthen Strasbourg as a military post, nothing could do so much to make the city a stronghold of German life and power as this reviving of her school of German thought, and in this view the occasion is treated as of national and historical importance.

It was so represented by the government in the speech from the throne, at the opening of the Reichstag; and the Parliament of the Empire has voted an address of congratulation to the University, and deputed a committee to assist at the ceremony of inauguration. The Imperial decree for the founding of the University, from the pen of Prince Bismarck, is in these words: "This High School, which once gathered to itself so many learned men from Elsass and Lothringen, and which gave back to these provinces and to the world, men skilled in every branch of learning, we found anew, in order that therein science being nourished, and youth instructed in the service of Truth, the area may be extended in which, through spiritual knowledge, a true fear of God and devotion to the common weal shall be cultivated. By this decree, executed by us this day, the Sectional schools and Faculties which had arisen out of the dispersion of the former University, are taken up, and all their rights are transferred to the new High School, as a public institution in the legal sense. It is our will that the University shall be endowed with all that is necessary to the performing of its functions, especially with all needful scientific auxiliaries; and that provision be made therein for all the demands of science. Provisionally, and until the erection of other buildings, we assign to the University the buildings heretofore used by the academy," etc., etc.

With a view to restoring its historical connections, the University is incorporated under the seal, "*Sigillum academiæ Argentinensis*;" and already, to day, with commendable promptness, the main entrance to the academy building exhibits a marble tablet with the following inscription:

"Universitatem litterariam summis auspiciis Maximiliani II Imperatoris Agusti in illustri civitate Argentinensi antiquissima in Germania bonarum artium sede anno MDLXVI constitutam et Ferdinandi II anno MDCXXI novis privilegiis auctam quae ab initio hujus saeculi sub Academiæ nomine floruit Guilelmus Imperator Germaniæ in integrum restituit ac renovavit MDCCCLXXII."

The Imperial order further empowers the University of Strasbourg "to arrange and conduct its internal affairs under the general statute for universities, and to

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appoint its Rector and the Dean of its Faculty under our approval."

To this decree was appended a list of the professors appointed to the several faculties by His Majesty, in the name of the German Empire: to the Theological Faculty, 6; the Faculty of Jurisprudence, 8; Medicine, 9; the Philosophical Faculty (which is a very comprehensive title, including History and Literature as well as Metaphysics), 19;—making a total of 42 regular professors, to whom are to be added 13 professors extraordinary, giving a corps of 55 instructors at the start, to whom will soon be added a number of secondary lecturers under the habilitation of Privat-Docent. The lists of professors show many distinguished names; indeed, some of the best men of Germany have been called from other Universities to man this outpost, and in the spirit of Patriotism have responded to the call. And so far from betraying a jealousy of this new rival, all the other Universities have sent to Strasbourg contributions from their libraries; and 26 Universities of Germany, Austria and Switzerland are represented to-day at the opening festival by deputations of professors and students. The greeting sent from Bonn was especially full and cordial. Indeed, not Germany alone, but Europe and the world of letters at large, have united to endow the Strasbourg University with a library, which, whatever may prove to be its worth to students, both in the number of its volumes and in the costliness of many of them, will represent the cosmopolitan liberality of learning. How beautiful the exchange of such tokens between Germany and Chicago, the United States and Strasbourg.

In Strasbourg itself this has been a gala day; the city brilliant with flags and flowers, and enlivened with music and with throngs of spectators attracted by the concourse of distinguished guests. Even the barracks have been turned into lodgings for strangers. Dr. Bruch, of the Theological Faculty, the designated rector for the year, greeted the deputations from abroad, and in the name of the University expressed thanks to the Emperor, to the Chancellor of the Empire, to the President of the Reichstag, and to the Mayor of Strasbourg, for the favor shown by them to this undertaking. Congratulatory telegrams from the Emperor and the Crown Prince of Prussia were then read amid much enthusiasm; after which, Professor Springer of the Philosophical Faculty, made the festival address. This was followed by speeches from Prof. Waitz on behalf of the German Universities, Prof. Tomaschek for the Austrian, and Prof. Weiss for the Swiss. These addresses manifested a most cordial spirit. The public solemnities were followed by social festivities, in which the Germans of all classes are ever at home, and into which professors, divines and dignitaries can enter without even the formality of "unbending." But such pleasures cannot well be transferred to paper. One incident, however, is worth mentioning, as illustrating the spirit of the festival. At the dinner, after the regular round of toasts, the prosperity of the city of Strasbourg was proposed. Now there is a famous popular song which runs,

"O Strasbourg, O Strasbourg,
Du wunderschöne Stadt!"

and instantly the whole company of 400 professors, judges, officers, etc., at the tables broke forth in this song with the enthusiasm of college boys. The whole festival was enriched with fine orchestral and vocal music.

The hard work of the University will now begin. There is quite a fair show of students on hand at the opening—some attracted by the novelty, others by the fame of the professors, and others by the prospect of a summer on the Rhine. But the point to be secured is that the University shall become a power in the conquered provinces of Elsass-Lothringen, and mould these to German ideas; and for this, subordinate schools must be established as feeders, and parents and children must be trained to regard these with favor. With this view, private liberality is already appealed to for aid to supplement the grants of the government. In time, Strasbourg may revere the memories of the thirteenth century, when her schools gave forth the science of Aristotle, the master of nature, in opposition to the dry and subtle scholastic theology, and her pulpits resounded with the eloquence of Eckart and Tauler. So, blending reason with religion, philosophy with piety, may she prove a worthy outpost of the

DEUTSCHES-REICH.

May 1, 1870.

OTTERBEIN UNIVERSITY—1847-1872.

BY PROF. H. GARST.

[The following in reference to this institution is from a recent number of the *Religious Telescope.*]

On the twenty-sixth of April, 1847, the first board of college trustees that ever met, in the history of the United Brethren Church, assembled at Westerville, Ohio. The Sciota Conference, to which belongs the honor of originating the enterprise, was represented by Revs. Lewis Davis and Wm. Hanby, and Jonathan Dresbach, Esq., and the Sandusky Conference was represented by Revs. P. Flack, J. Berger and D. Hurlbut. On the day above named the purchase of the "Blendon Young Men's Seminary" was concluded, the name of the institution was changed to "Otterbein University of Ohio," and arrangements were made to open the school on the 1st of September following. The co-education of the sexes, quite unusual and unpopular then, but becoming quite common and popular now, was decided upon, and the halls of Otterbein University were thrown open from the very first to students of both sexes.

On the 1st of September, 1847, the school opened with just eight students. It will be seen, therefore, that Otterbein University is like Yale and some other great colleges of the land, at least in this respect, that it had a very humble beginning. The aggregate attendance. however, during the first year, reached eighty-one.

From the dates at the head of this article it will appear that the institution will complete, at the approaching commencement, which occurs May 30th, a quarter of a century of its history. During these twenty-five years the aggregate attendance of students has been, in round numbers, 3,500. The first graduates were sent forth in 1857, when two young ladies received diplomas.

The first regular classical graduates received their degrees in 1858, eleven years after the college was founded. The whole number of graduates, including the present class, which goes forth in a few weeks, is 110. Of these, more than one-third belong to the last three classes, a fact which is very gratifying when the peculiar difficulties under which the institution has labored during these latter years, in consequence of the great fire, are considered.

Of the graduates, 70 are gentlemen, and 40 are ladies. Of the gentlemen, 29 are ministers of the Gospel, 3 are superintendents and twenty are teachers in public and high schools, 2 are physicians, 4 are lawyers, and 1 is an editor. Otterbein University is also represented by her sons and daughters in most of the colleges of the Church. The majority of her Faculty consists of her own graduates. In our theological seminary she is represented by two professors, in Lebanon Valley College, by one professor and the principal of the ladies' department; in Cottage Hill College, by the president; in Westfield College, by the president, one professor, and the principal of the ladies' department; in Western College, by the president and the principal of the ladies' department; and in Roanoke Classical Institute, by the principals in both departments. Otterbein University is, therefore, working, not simply in her own appropriate sphere, educating the youth under her immediate care, but, through her sons and daughters, in most of the colleges of the Church. Of the graduates not accounted for above, many are teachers, and all, so far as I know,—and I know nearly all,—are filling honorable and useful stations in life.

Of course the facts respecting these graduates present but a small part of the work of the institution. Among the thousands who have been in attendance for longer or shorter periods, many are in the ministry and in various other callings and professions. And when it is remembered how the college has been blest of God, how its history has been marked by many extensive and precious revivals of religion, no one, it would seem, could doubt but that Otterbein University has been eminently a success, and has earned for herself a place in the affections and confidence of the whole church. Her work has been wrought under many and great embarrassments, having been straitened for means during all her history. Indeed, it is a question whether ever an institution, with so slender means, accomplished more than Otterbein University.

In conclusion, I wish to ask earnestly, whether the time has not arrived, after an honorable history of a quarter of a century, for the institution to be relieved of her embarrassments, and for the means to be afforded her to enter upon a career of enlarged usefulness. So far as recitation rooms, literary halls, library, and reading room are concerned, the accommodations are superior and ample, but in almost every other department there is a want. The library, although nearly half as extensive as the one destroyed by fire, and containing many valuable works, procured during the past two years, is yet quite too small, and ought, at once, to be increased at least tenfold. The demand for additions to the chemical and philosophical apparatus is imperative. The endowment, while it affords invaluable support to the college is inadequate; and the debt, though not very large, is burdensome and annoying. While these wants are pressing the institution, it is nevertheless true that never in her past history, has Otterbein University been so well equipped as now, and her friends are abundantly able to supply all her wants. Other colleges, no more deserving, have been thus remembered by their friends. Why shall not Otterbein University be similarly favored?

CLASS OF 1868 AT YALE.

The Report of the Triennial Meeting and Biographical Record of this class has just been issued by the Class Secretary, Prof. Henry P. Wright, and is a handsome 12mo. pamphlet of ninety-eight pages. Great care has evidently been taken in getting up the pamphlet, and its thoroughness may be inferred when it is known that out of 177 who have belonged to the class since its starting in Freshman year, all but three have been heard from and have their record given. The report of the triennial meeting is the most full and complete that we have ever seen. A phonographer was employed to take down the speeches and proceedings at the business meeting and supper and they are given in full, occupying some forty pages of the pamphlet. In the speech in reference to the toast "Alma Mater" the steady progress of the college in various directions is referred to, and in a note we find it stated that in number of students there has been a constant increase for a series of years. In the whole University there were in 1864, 644 students and in the Academical Department, 458; in 1872 the corresponding figures were 809 and 527. And with a single exception, in both Academical Department and University, each year has shown an increase of students over the previous year. The biographical sketches are of course brief, for one does not make much history in the first three years out of college, but notwithstanding they contain much information. The full name of each classmate is given, and then follow the place from whence he came to college—in parenthesis—the place and time of birth, the place where the preparation for college was obtained, and a brief account of what has been done since graduation in the case of graduates, and since leaving the class in the case of the non-graduates.

The Biographical Record is followed by a few pages of statistics. These give the place of birth, the time of birth, the time of entering the class, the professions and occupations, marriages, births of children and deaths. There is also the financial report, the auditor's report, and the present postoffice addresses of both graduates and non-graduates. The "Summary" gives the whole number connected with the class at 177, and of these 105 graduated, leaving 72 non-graduates. Of this 72, as is customary at Yale, the largest number left or were permitted to leave during the first two years, 34 having departed during freshman, and 24 during sophomore year. The professions of the class exhibit the usual peculiarities. Seventeen have chosen theology; 40, law; 5, medicine; 12, teaching; 21, business; 4, civil engineering; 2, journalism; 2, farming; 1, palæontology; and 1, railway employ. This of the graduates. Of the non-graduates, 3 have taken theology; 15, law; 7, medicine; 1, teaching; 16, business; 2, journalism; 1, farming; 1, civil engineering; 1, chemistry; 1, comparative anatomy, and 1 is in the U. S. naval service. Seventeen of the class have been married and to them six children have been born. Eight of those who have been connected with the class have died. None of them, however, were graduates, a circumstance which is true of no class except '68 since the class of '55.

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SCIENTIFIC.

Mammoth Aquarium.—Dr. Anton Dorhn, in a letter to Professor Agassiz, writes that he has matured a plan of establishing a large laboratory for marine zoölogy in the Mediterranean. He has obtained permission of the authorities of the city of Naples to construct a large building, at his own expense, in the Villa Reale, at Naples, close to the sea containing a large aquarium for the public,and extensive rooms for naturalists of every country. Dr. Dohrn, with two or three other German zoölogists, will settle there, and conduct the administration of both the aquarium and the laboratories. He wishes information regarding this proposed laboratory to be widely extended, and earnestly invites all who may visit Naples to visit the aquarium. An annual report of the work done and the progress made at the zoölogical station will be published. A committee has already been formed to give further dignity and importance to this project, consisting of Messrs. Helmholtz, DuBois-Reymond, Huxley, Darwin, Van Beneden, etc., and in America, Professor Agassiz.—*Once a Week.*

The Diamond in its Matrix.—Professor Gustav Rose, of Berlin, in a communication to the Chemical Society on the recent discovery of diamonds *in situ*, said that the diamonds were found not loose and detached in alluvium, but actually enclosed in another mineral, and though of but microscopic size, had not on that account been the less surely identified. They were found by Professor von Jereemjew, of St. Petersburgh, in a mineral first described by Professor Rose during his journey through the Urals, and named by him xanthophyllite. This rock occurs in yellow tabular crystals, cleaving along the principal face, or radially segregated in rounded masses, and was found to be a silicate of alumina, lime, and magnesia, with some water. The spherular segregations often enclose a nucleus of the talcose schist. It is in these crystals of xanthophyllite that the crystals of diamonds are met with, lying in parallel positions in respect to each other and in a definite position as regards the crystals of their matrix, in a similar way to the minute crystals of iron mica in felspar or oligoclase; the diamond crystals, however, are smaller than these, and are not visible to the naked eye. On placing a thin plate of xanthophyllite under the microscope, the diamonds are recognized by their peculiar form, hexakistetrahedra, with somewhat rounded faces, and are seen to have their tetrahedral faces, which are also frequently visible, parallel to the cleavage face of the xanthophyllite. The diamonds are not in equal abundance in all parts of the xanthophyllite. In the yellow transparent crystals they are sparsely found, or not at all; the greenish, less transparent varieties contain them more plentifully, and are often filled to excess with them. In its bearing on the questions of the formation and origin of the diamond, the occurrence in the Urals is very interesting. There, as in Brazil, it occurs with crystalline schists, in the so called metamorphic rocks, which are supposed to be Neptunian rocks that have been deposited from water, and have subsequently undergone certain changes, amongst others that of taking crystalline characters, whereby all the organized constituents have been removed. Why carbon has separated in the itacolumite of Brazil as diamond, and at Strehlen, in Silesia, as graphite, is a phenomenon demanding explanation. Professor Rose asks whether we may trace the cause to the far greater diffusion of itacolumite in Brazil than in Silesia, where it only occurs as beds in gneiss?—*Scientific American.*

Vegetable Soap.—Many plants in different countries furnish useful substitutes for soap to the natives, when there are no conveniences or materials for manufacturing ordinary soap. Examples or these are the soapworts, (*Sapindus,*) so called from furnishing either in the pulp of the fruit or in the root or bark, a vegetable principle called saponine. Thus the Hindus use the pulp of the fruit of *Sapindus detergens* for washing linen. The capsule of another species, when bruised, forms suds if agitated in hot water; and the natives of India use this as a soap for washing the hair, silk, etc. The aril which surrounds the seed of a South American species is used as a soap. The fresh bark of the root of *Mounina polystachia*, called "*yalhoi*," pounded and moulded into balls, is used by the Peruvians in place of soap.

The bruised leaves of the European *Saponaria officinalis* form a lather which much resembles that of soap, and is similarly used in removing grease spots. The bark of *Quillaia saponaria* of Central America answers the same purpose, and is used as a detergent by wood-dyers. It has even been imported largely into France, Belgium, etc., and sold in the shops as a substitute for soap. A vegetable soap was prepared some years ago in Jamaica from the leaves of the American aloe, which was found as detergent as castile soap for washing linen, and had the superior quality of mixing and forming a lather with salt water as well as fresh.

In Peru, the leaves of the *Maguey agave* are used instead of soap. The clothes are wetted, and then beaten with a leaf which has been crushed; a thick, white froth is produced, and after rinsing, the clothes are quite clean. The pulpy matter contained in the hard kernel of a tree called "*Del Joboncillo*," is also used for the same purpose. On being mixed with water, it produces a white froth. In Brazil, soap is made from the ashes of the bassena or broom-plant, (*Sida lanceolata,*) which abounds with alkali. There are also some barks and pods of the native plants used for soaps in China.

The soap-plant of California (*Phalangium pomeridianum*) is a notable example of this class of vegetable productions, and is found exceedingly useful. The bulbous root, which is the saponaceous portion, resembles the onion, but possesses the quality of cleansing linen equal to any olive soap manufactured. Large amounts of washing fluids are made from this root at the standard Soap Works in this city (San Francisco)

This soap-plant grows all over California. The leaves make their appearance about the middle of November or about six weeks after the rainy season has fairly set in. The plants never grow more than a foot high, and the leaves and stalk drop entirely off in May, though the bulbs remain in the ground all summer without decaying. It is used to wash with in all parts of the country, and by those who know its virtues it is prefered to the best of soap.

The method of using it in its natural state is merely to strip off the husk, dip the clothes into the water, and rub the bulb on them as with soap. It makes a thick lather, and smells not unlike brown soap.

The husks are also utilized in large quantities, by being worked up into an imitation of hair for mattrasses, for which purpose they are found to be a very good substitute.

At St. Nicholas, one of the Cape de Verde Islands, they make a soap from the oil of the *Jatropha curcas* seeds, and the ashes of the pawpaw tree leaf. The oil and ashes are mixed in an iron pot, heated over a fire, and stirred until properly blended. When cool, it is rolled up into balls about the size of a six-pound shot, looking much like our mottled soap, and producing a very good lather.—*Scientific Press.*

New and Remarkable Fossils.—The extensive collections of fossil vertebrate remains which were made in the West by the Yale expeditions of 1870 and 1871, are yielding, in the hands of Professor Marsh, results of the greatest value to paleontological science. Ten important papers upon the new material thus obtained have already been contributed by "this indefatigable paleontologist" to the *American Journal of Science*, the last three of which relate exclusively to the collections of 1871. The first of these later papers, published in April, contains a description of some Pterosaurian remains, additional to those discovered by the expedition of 1870, of which an account was published about a year ago. To the gigantic species of pterodactyl then obtained, Professor Marsh gave the name *Pterodactylus occidentalis*. The Expedition of 1871, in exploring the original locality in Western Kansas, not only obtained further portions of the same skeleton, but secured other specimens which prove the existence of two other gigantic pterodactyls during the later Cretaceous. The characters of *Pterodactylus occidentalis* are derived from the study of portions of five individuals. They show clearly that the species belongs to the short-tailed or true Pterodactyls, and that it contains some of the largest "flying dragons" yet discovered, the spread of wing in these individuals being from eighteen to twenty feet! Its large tearing teeth clearly indicate the carnivorous and predacious habits of the species, and its food was doubtless fishes which it captured probably by plunging into the water like the Pelicans and other similar birds. Two new species, *P. ingens* and *P. velox*, are also described in the same paper. The former was even more gigantic than the one just mentioned, being at least double its bulk and measuring from tip to tip of the expanded wings nearly twenty-two feet! *P. velox* was about two-thirds this size, having a spread of wing of from twelve to fifteen feet. The great interest attaching to these fossils, lies in the fact that up to the time of their discovery, no remains of these flying Saurians had been detected in this country, though they are found so abundantly in the Cretaceous of Europe.

In the same number, Professor Marsh announces that the Mosasauroid reptiles were protectod by osseous dermal plates. Specimens belonging to the genera *Edestosaurus*, *Liodon*, *Holcodus* and *Clidastes* have been obtained with these plates attached. These dermal "scutes," as they are termed, are quadrilateral in form, with the margin of the upper side more or less beveled, so as to admit an imbricate arrangement; alternate rows of different sizes and shapes thus producing a complex pattern. The cranium was not thus protected.

In the May *Journal of Science*, Professor Marsh describes the remarkable gigantic swimming bird discovered in Western Kansas, to which he gives the name *Hesperornis regalis*. The skeletons of five individuals of this species, more or less complete, were obtained. From these, it appears that while Hesperornis differs widely from all known birds, recent or extinct, it has its nearest living allies in the Colymbidæ, or divers. The skeleton complete, would measure about five feet nine inches from the apex of the bill to the extremity of the toes. The extreme rarity of birds in the Cretaceous formation, even of any kind, renders this discovery of great importance. But it is especially so, when it is remembered that all the birds hitherto discovered, either in the Cretaceous of this country or of Europe, are of comparatively small size, and belong to still existing families; such as the swan-like bird (*Lavrnis*), the wading birds (*Paleotringa*) the rails (*Telmatornis*), and the comorants, (*Graculavus*), which Professor Marsh has already described from the American Cretaceous.

But the most valuable of Professor Marsh's papers is the third, which appears in the *Journal of Science* for June. It is a review of the "Structure and Limbs in Mosasauroid reptiles," made possible only by the richness of the Yale Museum collections in the remains of these remarkable animals. Though this paper is almost entirely a technical one, yet the results are obviously of high scientific interest. Prof. Marsh shows that the Quadrate bone of the skull, as given by Professor Cope, should be reversed, by finding a skull of *Lestosaurus* with this bone in position. Moreover, his explorations have discovered the stapes, the columella, the quadrato-parietal arch, the malar arch, and the pterotic bone, belonging to the cranium; and have proved the exact character of the anterior limbs and the presence of posterior limbs in these reptiles. They also show that the neck in the Mosasaurus group was unusually short. Two new genera, *Lestosaurus* and *Rhinosaurus*, are described; under the former, four new species are included. *Rhinosaurus micromus* Marsh and *Edestosaurus rex* Marsh, are also here described. The paper is illustrated by four admirably executed lithographic plates.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, JUNE 15, 1872.

WE give this week, as last, the undergraduate account of the second and final one of the series of base ball games with Harvard. It seems unfortunate that this game was marred by apparent partiality in the umpire. It is, in its uncertainty an unsatisfactory one at the best. There is perhaps none of those games which are supposed to rest on skill in which luck plays so prominent a part as base ball. But the result is rendered doubly unsatisfactory to all, and especially to the beaten nine if the umpire shows or appears to show a partizan spirit. This we regret to say seems to have been an accompainment of the recent Yale-Harvard game in Boston. The reports in the papers and the testimony of spectators agree to the fact that the umpire did lean in his decisions towards the local college. The position he held was we know a difficult one, and we do not go so far as to suspect his intentions, but it seems a pity that the good spirit of inter-collegiate sports should be marred by outside influences. It can hardly be said that the criticisms on the umpire spring from a wounded pride merely, for in the case of the first game it was acknowledged on all sides that the beat was a fair and square one. And in this case, if there had been no well founded cause for complaint we think none would have been made. It is unfortunate that the decision of the contest is not more satisfactory.

WHAT TO DO NEXT.

During the present summer several thousand young men will graduate from the various colleges of the country. With whatever preparation they may have attained during their college course, they will, many of them, at least, be thrown upon their own resources and be required to take up their life work. However they may have used their time; whether they have made it yield its utmost value, in culture and discipline, or have wasted it in frivolity and sport, their period of preparation is past and that of action has come. And this is true every summer. We do not refer to it because this fact is a novel one, but because it seems to us an interesting question how this body of young men and women will employ their varied talents and culture for the future.

Some without doubt have already decided the question of their future course. And to such our words will have little pertinence. But all the class statistics which we have ever seen, present more or less of the class in that most disagreeable of all situations, "undecided." There are some too who put off the day of making the final decision, of choosing their life work, by a determination to spend a year or two more in general study, or travel, thus adding to their culture and to their foundation for future usefulness. But the majority of young men at their graduation from college must take upon themselves something definite, must choose their profession, and to quite an extent, by a single decision, assume the responsibility of their whole life.

To say that this decision is a difficult one, is to say what every conscientious young man has found true in his own experience. And the college boy, or rather man, has to decide it under greater difficulties than most young persons of his age. His course of liberal studies has opened his eyes to so many diverse and incompatable lines of life; each possessing peculiar and almost irresistible atttractions that he is bewildered, and knows not which way to turn. Moreover, his decision is not so much controlled by circumstances as is that of those who do not enjoy the benefits of a liberal education. The latter must do what he can, the former, to a much greater extent, can do what he will. His field is larger and the paths which offer themselves to his feet, and seem to lead on to success, are so much more numerous, that the difficulty of decision becomes proportionally greater. With his better equipment he can traverse paths which others cannot enter upon, and if he have no strong bent of mind, and is not led by circumstances, his condition is almost pitable. In his confusion and half helpless state, he is apt to select almost at random, some one of the three professions which traditionally follow a college course. If ambitious, he studies Law, if conscientious, he studies Theology, if curious, he studies Medicine.

Now, in regard to these three professions, it seems to us, that this is hardly the way to enter any of them, and still more, that the drifting of college graduates into the law in such great numbers, is foolish, if not worse. We have the statistics of a number of college classes at hand and from them we conclude that nearly one third of every class which leaves Yale, at least, devote themselves to Law. In the class of 1858, 32 out of 101 are lawyers. In the class of '63, 35 out of 122 have the same occupation. In the class of '64, the corresponding figures are 29 and 109 The class of '66 shows 31 out of 95, and the class of '68, 40 out of 105. It would be easy to multiply these figures and to obtain statistics from other colleges pointing in the same direction. But this is enough for our purpose. What we desire to do is to call attention to the fact that so many college graduates take law, that although there is room enough up top and out West, yet the chances for success cannot but be rendered less by the multiplicity of those who are seeking them. The prizes being limited, the greater the number who strive, the less chance each one will have of winning.

With regard to Theology, we would say that it, more than any other profession should be decided by higher motives than mere inclination. No man should attempt to be a teacher and leader of men who has not especial fitness for, and call to the work. And this, indeed, may be said to a certain extent of all professions and occupations. But still the preacher, of all men, it seems to us, should be sure and not mistake his calling. We have no arguments to offer, however, more than these, against college graduates devoting themselves to the work of the ministry. The field is ample and there is need of laborers. Let such as feel so led walk in those paths.

And the same may be said of the third traditional avocation of college graduates, medicine. It is worthy of remark, however, that this profession demands such peculiar natural talents and such a turn of mind, that these safeguards will ever serve as a check upon the crowd of drifters which bump up against the other professions. It must be conceded, however, that there are worthless doctors, and doubtless many of those now in the profession took it for no well defined reason.

But it may be asked if neither law, theology, or medicine can wisely be taken, in what direction shall the attention of graduates be turned? To this we would reply that, other things being equal, journalism and science seem to us to offer at present the best chances of success. The age is one of newspapers. The lyceum spirit is dead, and the world is no longer moved from the platform. He who would now reach his fellow men, would dictate to others, would teach them even, or lead them must do it through the press. Journalism is the eye, the ear, and the tongue of the world's mind. It is broadening to the faculties, embraces almost the whole sphere of knowledge, and has within its ample folds room enough for nearly every variety of talent. But in a practical point of view the profession seems desirable. There is a demand for good journalists. No less than eight of the last class that graduated from Yale stepped almost from graduation into situations upon newspapers. And with the growth of the country this demand cannot but increase.

Much that has been said applies likewise to the study of science in some of its branches. The fields of Chemistry, Geology, Mineralogy, Engineering, etc., are not crowded with workers as is the law. And the chance for making new discoveries and thus connecting one's name indelibly with the records of his time is in these fields a large one. Moreover we can conceive no more fascinating work than dealing with the laws of nature and finding out how she works. But more than all we do not see how some of the questions which most thoroughly engross the thought of the day, can be solved without at least some scientific knowledge. The theologian who attempts to build up a cosmogony or construct a theory of the universe from the testimony of revelation alone, is, it seems to us, arguing from insufficient data. Again the phenomena of life, the phenomena of mental action, etc., can be approached most satisfactorily from the scientific side and for the reason that the basis on that side seems most firm. Indeed we do not see how, if the testimony of Science is ignored, any satisfactory theory of these phenomena can be constructed. The man therefore who would help solve these and kinred problems, which are exciting more attention at present than any others, must have a scientific education. And the practical side of science is likewise an inviting one. The scientific professions are not crowded. Good civil and mining engineers, practical geologists, chemists, etc., are in demand. And there is also a demand for teachers of science. The testimony of one of the best scientific schools of the country is, that they cannot supply the requisitions made upon them for recommendations of their graduates as teachers. And so long as our country is physically unsubdued, and is growing so rapidly in wealth and population, this demand can hardly be less.

Of course the decision of one's life work is a personal matter and but little help can be obtained from outside sources. Suggestions, however, are always appropriate to those in a dilemma and to such college graduates of this year as are still drifting we suggest an examination of the claims of journalism and science.

LITERARY.

J. B. Ford & Co. announce a uniform edition of the works of Rev. Henry Ward Beecher. The first of the series will contain the "Lectures on Preaching," delivered last winter at the Yale Theological Seminary. . . . Holt & Williams will publish in June in their Leisure Hour Series, Smoke, Hermann Agha; My Little Lady, Fly Leaves from which we shall give an extract next week, Fathers and Sons, and The Man with the Broken Ear; also Incidents of my Life (second series), by D. D. Home, the Spiritualist; a new impression of the first series of the same, and Bains' English Grammar. . . . . Adams, Victor & Co. issue to-day "Get Thee Behind Me Satan, a home born book of home truths, by Olive Logan.

Oliver Twist and Martin Chuzzlewit.*—This new edition of Dickens, of which the above volumes only have been issued, is entitled the "Household Edition." Its large and roomy pages—royal octavo—and the moderately fine type in which it is printed, make it possible to comprise the matter within a smaller compass than usual, Oliver Twist being included in 171 pages and Martin Chuzzlewit in 351. The illustrations are good, being by J. Maloney in the former, and J. Barnard in the latter. The books are bound in cloth, richly embellished in gilt. It is on the whole one of the most

* *The Adventures of Oliver Twist.*—By Charles Dickens; with twenty-eight Illustrations by J. Mahoney. Royal 8vo, pp. 171.

The Life and Adventures of Martin Chuzzlewit.—By Charles Dickens; with fifty-nine Illustrations by J. Barnard. Royal 8vo, pp. 351. New York, 1872. Harper & Brothers.

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desirable of the cheaper editions of Dickens' works, now before the public.

The Aldine for June appears to us to be the best number of the year thus far. The illustrations are judiciously selected from leading artists; Moran, Piguet, Otto Günther, Victor Nehlig, J. S. Davis, J. A. Hows, H. L. Stephens, and L. Beckmann, being represented. The engraving is excellent, and the printing superb, as usual. The best picture—if there be any best where all are so good—is in our opinion, Beckmann's "King fisher;" though Günther's "Love Aloft, and Moran's "Kwasind, the Strong Man," from Longfellow's Hiawatha, come very close to it. Two full-page illustrations—one "Gertrude of Wyoming," by Victor Nehlig, the other "The Pines of the Racquette," by J. A. Hows—are marvelous for wood-cut impressions. The literary department is well sustained, containing both original articles and admirable selections.

Poor Miss Finch.*—Hitherto, among living novelists, there was not one who had occupied, in the public estimation, a higher place for originality and invention, than William Wilkie Collins. But in all time to come, so long at least as he shall continue to write, his works will be received with suspicion. The story before us has lost him the high consideration in which he was held, by reason of a very remarkable coincidence, which, in the opinion of many, can be characterized by no milder name than plagiarism. It is very painful, even in the exercise of a duty, to bring this charge against any one who has contributed so largely to the amusement of the world. But it is generally regarded as the first duty of a writer of fiction, to invent a plot that shall be novel, in the outline or in the details, or in both these respects. At the very least, it must so differ from every other fiction, that in the perusal of the one, the reader may not be constantly reminded of the other. This is allowing very great latitude, yet scarcely enough to shield the author of "Poor Miss Finch."

Had he selected some obscure fable or legend, and out of a trifle created a great work of genius, as Shakspeare is said to have done in several instances, no one would have subjected him to censure even though the fact had been avowed. Or had he siezed upon the clever fiction of some unknown writer, and so vamped the plot as to have destroyed its identity, and left upon it the impress of his own genius, readers of fiction might have been satisfied, even though the critics, the Prophet Nathan of our day, condemned him outright for having taken the poor ewe lamb of some more humble literary laborer. But when he invades the field of fiction, and takes from a work better known and more read and admired than "Poor Miss Finch" is or ever will be, and from an author who holds a higher position than he has yet attained, not the critics only, but even the readers of romance, have a right to complain and to condemn.

The author to whom we refer is Lord Lytton, and the story, entitled "The Maid of Malines," may be found in that most poetical of novels, "The Pilgrims of the Rhine." In this story the hero is blind and the rival of the heroine is a cousin, while in "Poor Miss Finch" it is the heorine who is blind, and the rival of the lover is a brother; but with these insignificant exceptions, the plots, the incidents, and even the language of the authors bear such a remarkable resemblance, that it is utterly impossible to regard it as a mere coincidence. In "The Maid of Malines" the name of the heroine is Lucille, in "Poor Miss Finch" it is Lucilla. In the former story, the hero is born with sight, which he loses at the age of three years; in the latter the heroine can see at her birth, but at the age of one year becomes blind.

Eugene St. Amand, the hero in "The Maid of Malines," a young and handsome gentleman of affluence, moved "by a secret and unaccountable affinity," falls in love with Lucille, who is poor and plain, but good. "Her early childhood had, indeed, given promise of attractions," but the smooth skin and brilliant hues of her face had been marred by the small pox. In "Poor Miss Finch," Lucilla falls in love with Oscar Dubourg, the hero, also a rich and handsome young gentleman, at the sound of his voice and through some mysterious affinity. But like most blind people, she has a nervous horror of every thing dark, and Oscar, from the use of nitrate of silver, taken to cure himself of epileptic fits, caused by injuries inflicted by burglars, has turned to a hideous blue-black color.

Lucille longed to restore Eugene to sight, though she had little doubt that if he could see her he would cease to love her. Oscar, while he supposed Lucilla hopelessly blind, exacted from every one a promise to keep from her a knowledge of the change in his color, that it might not even affect her imagination; for he feared, could she but see him, that it would be fatal to her love. St. Amand wished to see that he might enjoy the beauty of Lucille, and Lucilla desired her sight that she might behold and admire the comeliness of Oscar. A catholic priest whom Lucille met at the tomb of the Magi at Cologne, sent her a physician named Le Kain, who restored St. Amand to sight. Nugent, the brother of Oscar, brought to Lucilla a German physician of great skill, Herr Grosse, whom he had met in America, and by whom her sight was restored.

The resemblance is not confined to the plot and incidents, but as before remarked, extends even to the language. In "The Maid of Malines," St. Amand says: "No, let me not see her alone, let me see her in the midst of you all, that I may convince you the heart never is mistaken in its instincts." In "Poor Miss Finch," Lucilla says: "I wish there were five hundred of you, because you would see me pick out Oscar from all the rest." "I insist on showing every body that I can pick out Oscar the moment I open my eyes." In the case of St. Amand—"The father, the mother, Julie, Lucille, Julie's younger sisters, assembled in the little parlor," while in that of Lucilla — Her father, her mother, her sister, the doctor, Madam Pratolungo, and the two brothers are assembled in a sitting room. "St. Amand stood hesitating on the threshhold;" Lucilla "for an instant stopped at the door."

Again, of St. Amand—"One look around sufficed to him; his face brightened, he uttered a cry of joy, 'Lucille! Lucille!' he exclaimed, 'it is you, I know it, you only.' He sprang forward and fell at the feet of Julie." Of Lucilla—"She rushed at Nugent Dubourg, so blindly incapable of measuring her distance that she struck against him violently, and nearly threw him down. 'I know him! I know him!' she cried, and flung her arms about his neck. 'Oh, Oscar! Oscar!'"

To the very end of the story may be found this very remarkable resemblance. St. Amand, unable to shake off his first impressions, marries Julie. Lucilla, shocked by the sight of Oscar, clings to Nugent. Afterwards St. Amand repents of his sudden infatuation, and goes to Egypt with Napoleon to find distraction in war. Lucilla, after a better acquaintance with Nugent, who has virtually imprisoned her, regrets her foolish preference, and grieves for the love and presence of her friends from whom she has been separated. The burning suns and sharp dust of Egypt smite St. Amand with a second blindness. The use of her eyes before they had acquired sufficient strength, causes Lucilla a permanent loss of sight. Returning from the war, St. Amand seeks Lucille, Julie being dead, and they are married. Oscar having freed Lucilla from the imprisonment of Nugent, is rewarded with her hand for his bravery and fidelity. In each case, the blind person blesses the blindness which prevents through the sense of sight, a knowledge of the conjugal partner's imperfections.

Arne.*—Although this book is not new, we venture to call attention to it, because it is too good to lose. Its author has been a journalist and his readiness to report both sides of a case shows an eminent fitness for that profession. *His* hero is no encyclopedia of perfections but a loving, generous, imaginative boy, suffering from the timidity and cowardice usual to poetic natures.

Once he so far forgot himself, in a moment of depression as to drink till he was drunk, and in the treatment of this incident, the author shows his intention to give even the devil his due. Neither the hearty good cheer of the drinking bout, or the anguish of repentance appear exaggerated; virtue however does not suffer by the comparison. The author touches pitch but none of it clings to his fingers. His impartiality in this respect may be recommended to some of our religious writers, who in their anxiety to be nothing if not moral, are afraid "to show virtue her own feature," vice "her own image." Their conduct would seem to imply that they thought vice would outshine virtue, that honesty would not thrive without a protective tariff, and that the triumph of divine justice itself depended upon bribing the opposing witnesses to absence from the court. Should any one desire an illustration of our meaning, he will find one, at considerable length in our Sunday School literature. Besides journalism Herr Bjornsen has written for the stage, and copies into his fiction, as far as possible, the characteristics which render the drama interesting and attractive.

No dramatic composition can be long, neither is Arne. Its chapters are short, but crowded with meaning till they recall the essays of Bacon; the words themselves are brief with the brevity of wit. The thoughts of the dramatist are conveyed by conversation. Bjornsen never speaks himself where his characters can speak for him. The dramatist never explains the motives of his actors, and Bjoinsen imitates his example and refers them to the penetration of his readers. Half the dramatists meaning is given by the actors, and Bjoinsen to compensate for the baldness of written language, describes the conduct of his characters at the time of their various speeches, supplying by the vigor of his imagination what a good player might do by action and inflection. So well has he done his work that we know of no novel which would gain as little or rather lose more, by being dramatized than Arne. Perhaps we may venture to quote in illustration of the author's style. Margit, Arne's mother, is trying to prepossess a certain young maiden in his favor, and the girl, though well pleased with the subject of conversation, attempts, just for propriety's sake to change it by asking them why they had pointed the house before them with gray paint.

"Ah, I suppose they had no other. I only wish Arne may sometime be rewarded for all his kindness to his mother. When he has a wife she ought to be kind-hearted as well as a good scholar. "What are you looking for child."

"I only dropped a little twig I had."

"Dear me, I think of many things you may be sure, while I sit in yonder wood; if ever he takes home a wife who brings blessings to home and man, then I know many a poor soul will be glad that day."

They were both silent, and walked on without looking at each other, but soon Eli stopped. "What's the matter?"

"One of my shoe-strings has come down."

Margit waited a long while till at last the string was tice. Instead of making Eli say she dropped a twig, many an ordinary writer would have said she blushed, and for "my shoe-srting has come down," she blushed again, with a touching allusion to the rosy dawn or a full blown poppy, if he were cursed with a so-called imaginative temperament.

Bjornsen's dramatic habit of leaving unexplained the motives of his characters, stimulates the mind to agreeable exertion and is one secret of his success in pleas-

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* *Poor Miss Finch.* A novel. By Wilkie Collins. Author of "Man and Wife," "The Woman in White," "Armadale," "The Moonstone," "No Name," &c. With Illustrations. New York: Harper & Brothers, Publishers, Franklin Square. 1872.

Arne. A novel by Bjorn Bjornson. Translated from the Norwegian, by Augusta Plesner and S. Rugely Powers.

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ing. For we love action naturally. If we do not work we must play; and mentally; when we are no longer engrossed in our own business, we become generous, and give our neighbors the benefit of our superfluous wisdom. For instance, did Augustus Adolphus and Angelina Fitzsimmons ever ride out of a summer evening without setting all the idle old women of the place, male and female, to saying it would be a match, and criticising the propriety of the event. But sarcasm aside; that broken chain of actions by which the author introduces his characters to his acquaintances resembles, as a picture its original, our own experience with our friends. In this setting so true and natural everything appears to the best advantage, and the noble thoughts of the author display themselves like a beautiful picture in an elegant frame.

We have spoken highly of the author's art but this does not constitute a tithe of his greatness. He might have none and yet his book be famous for its fertile imagination, tender pathos and absorbing love of nature. Arne once mimics his mother's way of speaking, when her voice is choked with sobs, to amuse his scapegrace father. She overhears him, looks at him, but says nothing. He leaves his father, goes to her and finds her making him a new jacket. She generally sings when she sews, now she is silent. He buries his face in her lap and sobs out his request for forgiveness and will not be comforted till she sings to him once more. Then lulled by the music of her voice and the assurance of her forgiveness it contains, he falls asleep; and when he wakes up he finds his mother has gone but she has left the half-made jacket folded under his head for a pillow. When he was drunk he hid himself for shame, but his mother did not rest until she had found him, and then she met him, not with reproaches, but with love, and won him to a wiser way.

Thus he grows up lonely, loving the solitude of the pastures and the forest and the solemn monotone of the falling water, and yet he longs to go away and try the great unknown. All the while he loves his mother deeply and tenderly but they do not speak much together and he is ever willing to leave her. One day, however, he meets an old man at work, and asks him of his friends. He finds he has none, and then the thought flashes across him "What should I do if I should lose mother." The idea frightens him and he hurries home, half expecting that some accident has befallen her, but he finds her quietly sleeping. And so the love of the two for each other grows, day by day, each finding more and more of it in the little incidents of their life, till the soul of each other grows unto the other and at last they beat in perfect unison. No boy who has had a good mother can read this book and not find her speaking to him in every line and her expression photographed on every page.

COLLEGE COMMENCEMENTS.

The following College Commencements will be held during the week to come. The list is made out partly from catalogues in our office and partly from the table of collegiate institutions in the last Report of Hon. John Eaton, Jr., Commissioner of Education:

Almira College Greenville, Ill., Wednesday, June 19.
Baltimore Female College, Baltimore, Md., Thursday, June 20.
Illinois Wesleyan University, Bloomington, Ill., Thursday, June 20.
Lombard University, Galesburgh, Ill., Wednesday, June 19.
McKendree College, Lebanon, Ill., Thursday, June 20.
Wabash College, Crawfordsville, Ind., Thursday, June 20.
Fort Wayne College, Fort Wayne, Ind., Friday, June 21.
Indiana Asbury University, Greencastle, Ind., Friday, June 21.
Griswold College, Davenport, Iowa, Wednesday, June 19.
Iowa Wesleyan University, Mt. Pleasant, Iowa, Wednesday, June 19.
Cornell College, Mt. Vernon, Iowa, Tuesday, June 18.
Highland University, Highland, Kansas, Thursday, June 20.
Washburn College, Topeka, Kansas, Wednesday, June 19.
Western Maryland College, Westminister, Md., Thursday, June 20.
Adrian College, Adrian, Mich., Thursday, June 20.
Kalamazoo College, Kalamazoo, Mich., Wednesday, June 19.
Olivet College, Olivet, Mich., Thursday, June 20.
Westminister College, Fulton, Missouri, Thursday, June 20.
Washington University, St. Louis, Mo., Thursday, June 20.
Rutgers College, New Brunswick, N. J., Wednesday, June 19.
Brooklyn Collegiate and Polytechnic Institutes, Brooklyn, N. Y., Wednesday, June 19.
Madison University, Hamilton, N. Y., Wednesday, June 19.
University of the city of New York, Thursday, June 20.
Trinity College, Randolph Co., N. C., Thusday, June 20.
Richmond College, Richmond, Ohio, Wednesday, June 19.
Heidelburg College, Tiffin, O., Friday, June 21.
Willoughby College, Willoughby, Ohio, Saturday, June 22.
Wilberforce University, near Xenia, O., Friday, June 21.
Xenia College, Xenia, O., Wednesday, June 19.
Ohio Central College, Iberia, Ohio, Saturday, June 22.
Hiram College, Hiram, O., Saturday, June 22.
Willamette University, Salem, Oregon, Thursday, June 20.
Lebanon Valley College, Annville, Penn., Thursday, June 20.
Lafayette College, Easton, Penn., Wednesday, June 19.
Allegheny College, Meadville, Penn., Thursday, June 20.
Lincoln University, Oxford, Penn., Wednesday, June 19.
East Tennessee University, Knoxville, Tenn., Wednesday, June 19.
Lookout Mountain Educational Institution, Lookout Mountain, Tenn., June 18.
Fisk University, Nashville, Tenn., Thursday, June 19.
Roanoke College, Salem, Va., Wednesday, June 19.
College of William and Mary, Williamsburgh, Va., Monday, June 17.
Bethany College, Bethany, West Virginia, Thursday, June 20.
West Virginia University, Morgantown, West Virginia, Wednesday, June 19.
University of Wisconsin, Madison, Wis., Wednesday, June 19.

The following Theological Seminaries hold their anniversaries, during the coming week:

Theological School of Bates College, Lewiston, Maine, Tuesday, June 18.
Theological Department of St. Mary's College, near Emmitsburgh, Md., Monday, June 17.
Theological Seminary of Madison University, Hamilton, N. Y., Tuesday, June 18.
Theological Department of Wilberforce University, near Xenia, O., Wednesday, June 19.
Meadville Theological Seminary, Meadville, Penn., Thursday, June 20.
Divinity School, Philadelphia, Penn., Thursday, June 20.
Theological Department of Lincoln University, Oxford, Penn., Wednesday, June 19.
Theological Department of Baylor University, Independence, Texas, Thursday, June 20.

COLLEGE RECORD.

Kenyon College, (Gambier, O.)—Rt. Rev. H. W. Lee, D. D., LL.D., Bishop of Iowa, will preach the baccalaureate sermon, on the 23d instant: Bishop Littlejohn having been obliged to leave for England.

The Diocesan Convention of Ohio has adopted a new constitution for the schools at Gambier, whereby the Board of Trustees is to consist of four classes, as follows:

1. The Bishops in Ohio and the Pres. of Kenyon College are Trustees, ex officio.

2. Eight Trustees, whose successors are to be elected by the Board.

3. Six Trustees, whose successors are to be elected by the Diocesan Conventions.

4. Four Trustees, who and their successors are to be elected by Alumni.

This constitution has yet to be approved by the Trustees, and by Bishop McIlvaine, who is now in England.

The Committee of the Alumni of Kenyon College have agreed to dispense this year with the usual oration and poem; and to have a pleasant re-union with a dinner and short speeches.

Dickinson College, (Carlisle, Pa.)—The following is the programme for commencement week at this institution: June 22nd, Scientific Society Lecture, by Prof. C. F. Himes, Ph. D; June 23rd, Sermon before the Society of Religious Inquiry, by Rev. E. W. Appleton, A.M., Baccalaureate address by President R. L. Dashiell, D. D.; June 24th, Junior Oratorical Contest; June 25th, Senior Class Day, General Societies Anniversaries, Orator, Hon, John B. Storm, M.C., Poet, Rev. F. Bottome; June 26th, Alumni Oration; June 27th, Commencement Day. There are eighteen in the graduating class. The honor men are as follows: Edwin Post, N. J., Valedictory. W. P. Headden, N. J., Latin Salutatory. J. H. Shopp, Pa., English Salutatory. Joseph P. Gross, Pa., Philosophical Oration. T. M. G. Griffith, Md., Literary Oration.

President Dashiell has resigned and Rev. James McCauley, D.D., of Washington, D. C., is the most prominent candidate mentioned for the presidency.

Prof. C. F. Himes, Ph. D., and family sail for Europe on the 29th inst.

University at Lewisburg, (Penn.)—The exercises of Commencement week at this institution, will begin on Sunday, June 23d. On Sunday afternoon Rev. G. F. Pentecost of Brooklyn, will deliver the sermon before the Society for Inquiry, and in the evening the Rev. A. J. Roland, of Pittsburg, will preach before the Educational Society. The Alumnæ Association will hold their meeting on Monday, June 24th. at 3 P. M. On Monday evening the Alumni Association will hold their meeting, the orator for the occasion being E. H. Painter, of Wilkesbarre, and the poet, G. H. Irwin, of Harrisburg. On Tuesday morning the seniors will have their "class day" exercises, and in the afternoon there will be the graduating exercises of the U. F. I. On Tuesday evening Rev. E. F. Burr, D. D., of Lyme, Conn., will address the Literary Societies. His subject will be—The Heavens on the Development Hypothesis. On Wednesday morning will be held the graduating exercises of the Collegiate Department; at noon there will be the usual commencement dinner in the Baptist chapel, and in the evening the President's levee. Besides the regular exercises of Commencement week, there will be a reception given, at the Ladies' Institute, on Saturday evening, June 22d, in honor of the return of Dr. Loomis.

Tufts College, (College Hill, Mass.)—The annual meeting of the Board of Trustees of Tufts College was held on the afternoon of May 28th. The report of the treasurer, the Hon. Richard Frothingham, was read. It showed the receipts to have been $109,757.39, and the expenditures, $108, 179.47, leaving a balance of $1,577.92. About half of the receipts were from the sale of stocks belonging to the corporation, and were used to pay for the new domitory erected last year on College Hill at an expense of $52,243.55. The principal receipts from other sources were as follows: Unrestricted funds, $3,600; special fund, $15,843; Packard estate, $24,312; product of farm, $2,654. The larger expenditures were for salaries, $28,800; scholarships, $1,270; repairs, $837; farm and stock, $1,200; improvement of ground, $2,000; sundries, $5,800. The Rev. Dr. Page offered resolutions of respect to the memory of Timothy Collins, Esq., a late member of the board, which were adopted. It was voted to increase the board of trustees of the college to sixteen members, two deaths, that of Oliver Dean of Franklin, the late president, and Timothy Collins of Medford, having occurred during the past year, making the present number of that body but fourteen. The treasurer's report was accepted, but no further action was taken upon it. The board adjourned to meet again on the 10th of June next.

Dartmouth College, (Hanover, N. H.,)—The following is the order of exercises for Commencement week: Sunday June 23, at 3-14 o'clock, P. M., Baccalaureate Discourse, by President Smith; 8 o'clock, P. M., Address before the Theological Society, by Rev. Lewis O. Brastow, of St. Johnsbury, Vt. Monday, June 24, 8 o'clock, P. M., Prize Speaking. Tuesday, June 25, 3 o'clock, P. M., Class Day Exercises; 8 o'clock, P. M., Anniversary of the Chandler Scientific Department. Wednesday, June 26, 10 o'clock, A. M., Address before the Phi Beta Kappa Society, by Rev. Charles A. Aiken, D. D., of the Princeton Theological Seminary; 11 1-2 o'clock, A. M., Eulogy on the late President Lord, before the Alumni, by Dr. Alpheus B. Crosby; 3 o'clock,

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P. M., Anniversary of the United Literary Societies; Address by Rev. Edward E. Hale, D. D., of Boston, Mass; Poem by Walt Whitman, Esq., of Washington, D. C.; 8 o'clock, P. M., Concert by Grafulla's Band of New York. Thursday, June 27, 8 o'clock, A. M., Meeting of the Alumni in the Chapel; 10 o'clock, A. M., Commencement Exercises.

The new Hall of the Pathological Museum, connected with the Medical Institution will be finished in August. It will involve a fine addition to the Medical Building. The grading connected with the enlarged and renovated Scientific Building, is nearly completed.

Much interest is felt in the Aniversary of the Scientific Department it being the first of the kind at Dartmouth. Seven of the graduating class, selected according to relative scholarship, are to speak.

Ground has been broken for a new building on the premises of the Agricultural Department. Besides rooms for the superintendent of the Farm Department, it is to embrace a considerable number of dormitories, together with a large boarding establishment open to students of all the departments, in which it is expected that, by utilizing the products of the Farm, board will be afforded at $2,50 a week.

Adams Academy, (Quincy, Mass.)—In 1822, a few years before his death, President John Adams granted to the town of Quincy certain tracts of land for the support of a school "for the teaching of Greek and Latin." Following this instruction, those intrusted by the testator with the direction of the Academy have determined to make it a training school in preparation for college. A building has now been erected, which, it is believed, is unsurpassed by any of its kind in the country. It stands on the site of the ancient house built by Rev. John Hancock, father of Governor Hancock. The school is designed to be of the highest order and intends to furnish a thorough and extended preparation for the best American colleges. The Board of Managers, of which Hon. Charles Francis Adams is Chairman have elected as Master of the school, Professor William R. Dimmock, long and favorably known as one of the Masters of the Boston Latin School, and for some years past Professor of the Greek Language and Literature at Williams College. Applicants for admission are to be at least thirteen years of age, and will be expected to to have such knowledge of the common English branches as may be obtained by boys of that age at ordinary grammar schools. There will be but one daily session of the school. The tuition is to be $100 per year. Those who are interested in bibliography will like to know that Mr. Adams's private library will be placed in the Academy; and it is said this small but extremely curious collection is well worth a visit to Quincy to examine. There is hardly one of the great early printers of whose work it does not contain good specimens, covering a period of typographical history extending from the Alduses down to Baskerville. All the celebrated presses—the Italian, French, Venetian, English, and Scotch—are represented by fine editions, most of them in their original binding. There are scores of books in this library which are rarely met with outside great collections, and many of them are enriched by Mr. Adams' autograph annotations.

Yale College. (New Haven, Conn.)—The regulations under which the voting for the new alumni members of the corporation are to be elected, have been issued and sent around to the qualified graduates. The circular contains the law in accordance with which the change in the Corporation is made, and then the regulations to govern the voting are given as follows:

New Haven Connecticut, }
June, 1872. }

Sir:—By the provisions of the foregoing Act of the Legislature of Connecticut, you will be entitled to vote on the tenth day of July next for six members of the Corporation of Yale College.

In anticipation of the election, an advertisement in the public prints, in March last, invited the nomination of suitable candidates; and a list is hereto appended, giving the names of all thus nominated by more than twenty-five electors. It will be understood that in voting *no one is restricted to the names proposed.*

By a regulation of the Corporation, any professor, in any department of Yale College, accepting an election as Fellow, will thereby vacate his Professorship.

The polls will be open, in the north wing of the Library building, on the College square, from two to half past six o'clock, on Wednesday afternoon, July 10th. No cumulative voting will be allowed. Every elector must use a separate ballot.

The enclosed blank form for a ballot is furnished that any graduate not intending to cast his vote in person may forward it in season to the undersigned, or may otherwise provide for despositing it on the day of election. The inspectors of the election are authorized to reject all ballots of which the written part is not wholly in the autograph of the voter.

By order of the Corporation,
FRANKLIN B. DEXTER,
Secretary.

The names of the candidates, which have already been published in the COURANT, are then given, followed by the present members of the Corporation. A foot note adds that Senator Buckingham will decline to accept an election.

The following is the blank form referred to in the regulations:

I hereby cast my vote, as on the tenth day of July, 1872, for the following persons to be Fellows of Yale College, in accordance with the provisions of an Act passed by the General Assembly of the State of Connecticut, in July, 1871, and amended by said Assembly in June, 1872.

1 . . . . . of the class of 18
2 . . . . . of the class of 18
3 . . . . . of the class of 18
4 . . . . . of the class of 18
5 . . . . . of the class of 18
6 . . . . . of the class of 18
(Signed) . . . . . of the class of 18
Dated at . . . . this . . day of . . . 1872.

It is perhaps unnecessary to add that those graduates who present their votes in person do not need to sign them.

The Senior Society elections were given out last Thursday evening, about seven oclock, attended with rather more than the usual excitement. The following gentlemen received elections:

SKULL AND BONES.

Arthur H. Allen, Summit, N. J.; Eben Alexander, Knoxville, Tenn.; William Beebe, Warsaw, N. Y.; Rensselaer W. Daniels, Lockport, N. Y.; Herbert M. Denslow, New Canaan, Ct.; Samuel J. Elder, Lawrence, Mass.; Wilbur W. Flagg, Yonkers, N. Y.; Charles R. Grubb, Burlington, N. J.; Edward R. Johnes, Lexington, Ky.; Isaac N. Judson, New Haven, Ct.; Herbert W. Lathe, Worcester, Mass.; Joseph P. Ord, San Francisco. Cal.; Samuel O. Prentice, North Stonington, Ct.; Frank B. Tarbell, Groton, Mass.; Charles H. Thomas, Covington, Ky.

SCROLL AND KEY.

Frederic W. Adee, Westchester, N. Y.; Philip H. Adee, Westchester, N. Y.; Frank D. Allen, Worcester, Mass. S Leonard Boyce, Chicago, Ill.; Edward A. Bradford, N. Y. City.; Atwood Collins, Hartford, Ct.; Daniel Davenport, Wilton, Ct.; Jeremiah Day, Catskill, N. Y.; John O. Heald, Orange, N. J.; Wm. A. Houghton, Holliston, Mass.; Hart W. Lyman, Northampton, Mass.; Willis F. McCook, Pittsburg, Pa.; Schuyler Merritt, Stamford, Ct.; James P. Platt, West Meriden, Ct.; Frederic S. Wicks, Syracuse, N. Y.

Houghton and McCook refused elections to Skull and Bones. But fourteen names on each list could be ascertained that evening. It appeared, however, that Bradford had received his election to Scroll and Key while in Amherst, attending a Psi Upsilon convention; a fact which was not known about college until the next morning, when he returned. The remaining name on the Bones list was also added on Wednesday.

The Townsend Premiums for English composition in the class of '72, have been awarded as follows: R. E. Coe, Bloomfield, N. J.; J. H. Hincks, Bridgeport, Conn.; A. R. Merriam, Goshen, N. Y.; F. D. Root, Coventry, Conn.; C. J. Ropes, London, England.; and H. M. Sanders, New York city.

The speaking for the DeForest medal takes place in the chapel on Tuesday, June 28th. Of the successful competitors, the first, third, and sixth, wrote upon "Sir Walter Raleigh," the second and fifth upon "Gibbon's Secondary Causes" and the fourth upon "The Progress of English Poetry in the treatment of External Nature."

The following have been chosen to speak at Commencement:

J. H. Clendenin, Gallipolis O.; R. E. Coe, Bloomfield, N. J.; C. C Deming, Hartford, Conn.; F. U. Downing, Columbus Ga.; C. F. Emerson, Stratford, Conn.; J. H. Hincks, Bridgeport, Conn.; D. S. Holbrook, Chester, Mass.; B. Hoppin, New Haven, Conn.; R. K. Kendall, Ridgefield, Conn.; G. Kendrick, Waterbury, Conn.; E. S. Lines, Naugatuck, Conn.; A. R. Merriam, Goshen, N. Y.; G. F. Moore, Westchester, Penn.; C. B. Ramsdell, N. Y. city; G. Richards, Litchfield, Conn.; H. M. Sanders, New York city; F. Schell, New York city; D. J. H. Wilcox, Port Richmond, N. Y.

The Scientifics have determined not to enter the Regatta at Springfield.

The music room has been changed from Calliope to Brothers Hall. Calliope is to be used for the collection of bones which Prof. Marsh's recent expeditions have largely increased.

SHEFFIELD SCIENTIFIC SCHOOL.

The anniversary of the Sheffield Scientific School will be held as usual on the Monday of Commencement week, (July 8, 1872) at 8 p.m.

SPECIAL NOTICE.

The general assembly of the former scholars, which was appointed for that time is postponed until the completion of the new building which is now going up.

New Haven June 11th, 1872.

YALE PERSONALS.

'71 BENEDICT.—Seelye Benedict is at present in the boot and shoe business in San Francisco, Cal.

'71, MAYNARD.—R. P. Maynard spends the summer with a triangulation party of the U. S. Coast Survey, on Lake Champlain.

'71, SAWYER.—E. T. Sawyer, for some time connected with the class of '71, is at present a member of the firm of Mann, Bowers & Sawyer, jobbers of boots and shoes, Nos. 27 and 29, Federal St., Boston.

'18, SHIPMAN.—Married at Jewett City, May 23d, George W. Avery, M. D.(Yale Med., '61), of Hartford, and Miss Lydia L., daughter of Rev. Thomas L. Shipman, of Jewett City.

'45, CHILDS.—Rev. Alexander C. Childs has been dismissed from his pastorate of the Congregational Church at West Charlestown, Vt.

'62, MURRAY.— Rev. W. H. H. Murray preached at the church of the Redeemer, in New Haven, both morning and evening last Sunday.

'66, COLLIER.—Married in St. Peter's church, Westchester, on the 6th inst., by Chas. B. Wyatt, D.D., Miss Clara T. Adee, daughter of Geo. T. Adee, Esq., to Mr. M. Dwight Collier, of St. Louis, Mo.

'68, BECKWITH.—Isbon T. Beckwith, who has been for two years past, tutor in Greek in the college, sails for Europe, after commencement, to spend two years in study.

'69, MCQUILLAN.—Mr. D. A. McQuillan, has opened a law office in Mrs. Edwards' building, Portland, Conn.

'70, CARPENTER.—Z. T. Carpenter graduated in the law department of Columbian College, Washington, D. C., June 12.

'70, HESING.—The *Illinois Staats Zeitung* with which Washington Hesing, is now connected is having a new building erected at the corner Fifth avenue and Washington streets, Chicago. The building is to be 110x40 feet on the ground and six stories high above the basement. The style of the fronts is the Italian Renaissance. The entire cost of the building is estimated at $100.000, and that with the ground and new furniture, type, etc., will make the total investment of the establishment not far short of $250.000. Mr. Hesing has recently commenced sending the *Staatz Zeitung* to the College Reading Room gratuitously.

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GLEANINGS.

PERSONAL.

— Rev. W. Bruce was lately elected to the Chair of Church History, Archæology, Sacred Chronology, and Greek Literature in the Theological Seminary at Xenia, Ohio.

— Rev. W. W. Barr and Rev. Robert Stewart have been elected to the chairs of Church History and Pastoral Theology, and Homiletics and Exegesis, respectfully, in the Theological Seminary at Newburgh, New York.

— Rev. Cyrus Hamlin, D. D., President of Robert College, sailed in the Russia, last week, for his home. He intends returning to this country in the fall to complete the endowment of the institution, with which he is connected.

COLLEGE.

— Oxford University celebrates its 1000th annniversary this year.

— Woford College, S. C., has 136 students—96 in college classes and 40 in the preparatory school.

— The post of teacher of Chemistry in Clifton College, Eng. will be vacant at the end of the present term.

— The Trustees of the Smith Female College of Northampton, Mass., are looking for a proper president for the institution.

— There is said to be a larger endowment for education in Hampshire county, Mass., than in any other county in the United States.

— Governor von Moller, of Alsace-Lorraine, has given $2,000 to found scholarships for Alsatian students in the University of Strasbourg.

— The final celebration of the Philogian and Mu Sigma Rho Societies, of Richmond College, will take place on Wednesday evening, June 26.

— The commencement exercises of Packer Collegiate Institute are to be held in Plymouth church, Brooklyn on the evening of Tuesday June 18th, next.

— The property of the recently suspended Franklin College in Indiana was to be sold the tenth of June if $10,000 was not raised previous to that time.

— The Southern Baptist Theological Seminary at Greenville S. C. has recently received $1,559.11 in donations, and has immediate pressing needs for about twice that amount.

— The Seniors at Lafayette College, Easton Penn., in taking their elective studies for the term, chose as follows: German, 9; History, 9; Hebrew, 3; French, 3; Chemistry, 2.

— In Rangoon College and Seminary, of which Rev. J. W. Bimsey is President and Rev. John Packer, Professor, the average number of students during the year past was seventy-two.

— The Female College building at Chappell Hill, Texas, was recently burned. The citizens of the place have resolved to rebuild the college at once. The sum of $3243 gold has been already contributed.

— Mr. Robert has decided to sell the property of the educational institution which he established six years ago at Lookout Mountain, and close up the school, transferring the funds thus obtained to Robert College, Constantinople.

— The report of the American Education Society shows an expenditure of $30,000 during the year, in aiding 361 young men to obtain education for the ministry. One hundred dollars was allotted to each student. The receipts exceeded $32,000.

— Rev. J. C. Nevin, the United Presbyterian Missionary to China, donated his splendid Chinese museum to Monmouth College. The college board, in return, voted him a perpetual scholarship; but he has made this over to president Wallace and his successors in office, with provisions as to who shall receive its benefits.

— A class at Lafayette College recently expressed through their committee a willingness to excuse one of the professors who was reported ill, from hearing them recite. They did not succeed, however, in inducing the professor to take care of his health but are said to be willing to exhibit like benevolence on all like proper occasions.

— The annual Boylston prizes of Harvard college have been awarded this year as follows: That of $200, for the best essay on the "pathology of malignant and semi malignant growths," to Dr. J. C. Warren of Boston; and that of $150, for the best essay on the "pathology and treatment of sunstroke," to Dr. Horatio C. Wood of Philadelphia.

— During the recent session of the Anti-Secret Society Convention in Oberlin, Ohio, anti-Masonry was very popular among the students. Seniors denied themselves the pleasure of recitation in Political Economy, in order to attend the Convention. Juniors sacrificed German to the same end, and Sophomores and Freshmen preferred it even to Latin and Greek.

— The University Library at Washington and Lee University is undergoing a course of treatment at the hands of carpenters in order to receive the Howard Library which Mr. Corcoran of Washington, donated to the University. The room is large and Commodious, and the new arrangements will enable it to receive this large Library, in addition to the one it already contains.

— Trinity College has recently received a number of valuable books from London. Among them are a number of Greek Lexicons, the most important being Gaisford's "Etymologicum Magnum," 1 vol. fol., and DuCanges' "Glossarium Mediae et Infimae Graecitatis," 2 vol. fol., the latter a very rare and valuable work. There is also DuCanges' "Gloss. Med. et Ief. Latinitatis," in 8 vol. 4to., elegantly bound.

— The Carpenter scholarships annually awarded to the two members of the senior class of Brown University, "who being good in scholarship shall, in the judgment of the faculty, unite in the highest degree the three most important elements of succsss in life, ability, character and attainment," have been awarded this year to William Shields Liscomb, of Providence, and Edwin Ayer Herring, of Haverhill, Mass.

— Action was taken by the late General Assembly of the United Presbyterian Church approving the establishment of a literary and theological institute for the training of a native ministry in Egypt, and authorizing the Board of Foreign Missions to establish an additional one in Egypt, if they deem it necessary, and instructing the Board to consult with the brethren in Syria, and, if necessary, found such an institution at Damascus.

— At a recent meeting of the Trustees of the College of the City of New York, the report of the Executive Committee recommending the following appropriations, was approved; salaries of professors and tutors, $117,500; scientific apparatus, $1,500; books and supplies, $3,400; repairs and furniture, $1,000; incidentals, fuel, and gas, $1,600. Total, 125,000. Controller Green was requested to place $35,000 to the credit of the college.

— The annual commencement exercises of the Illinois Normal University occurs this year, on Thursday, June 27; the annual reunion of the Alumni will be held on the afternoon and evening of the 26th. President Edwards will recognize the completion of his ten years of service in the University, by a Decennial address on Commencement Day. All previous students and friends of the University are cordially invited to attend these exercises.

— Commencement at Amherst comes the second week of July. The baccalaureate sermon is set down for Sunday, July 7; the Hyde and Kellogg prize speaking on Monday, the 8; class-day and concert by the Mendelssohns and other artists on Tuesday, when the freshmen will also be examined; alumni meeting, Wednesday morning; social union address by Wendell Phillips, Wednesday afternoon; the alumni sociable, Wednesday evening; and on Thursday, beginning at 10 o'clock, commencement exercises.

— The University of North Carolina is thus described by the Orange county grand jury: "Only one member of the faculty, the president, remains. The woodland of the college is being badly plundered, and the college campus, one of the most beautiful in the United States, is depredated upon. Cattle wander through the college buildings, and the chapel, where prayer and divine services were wont to be held, is now often used for the vilest purposes. The libraries, which belonged to the literary societies formed by the students, are often invaded and valuable books abstracted."

— The commencement exercises of Western College will take place on the 19th of June. Ten students will graduate—eight in the classical course and two in the scientific course. Examinations will commence on the 13th of June, and will be continued from day to day until completed. The baccalaureate sermon will be delivered on the 16th, at 10½ A. M. On the evening of the 17th, Rev. Mr. Aldrich, of Wyoming, Iowa, will address the joint literary societies of the college. Also on the evening of the 18th, Judge Hammond, of the Iowa State University, will address the societies of the institution.

— The Springfield *Republican* says: "The educational committee of the Woman's Club in Boston, have decided to do something practical toward the better education of the coming woman. They propose to form a preparatory class of girls who wish a collegiate education, and when they are fitted send them to apply for admission at some college. In case the eastern universities refuse to receive them, they will go to some of the western colleges already opened to women. Those wishing to join such a class are invited to make the fact known by a letter to the Woman's Club, No. 3, Tremont Place, Boston.

— An American gentleman residing in Berlin, has presented to the Royal Library the first thirteen volumes of the *Independent*, and a complete set of the *New Englander*, all substantially bound; also, a set of the Rebellion Record, and many pamphlets and documents relating to the civil war in the United States. The Berlin Library is thus in possession of materials rarely to be found in Europe, for illustration, a most important period of our history. The gift is highly appreciated by the officers both for its intrinsic value, and as an expression of that courtesy which renders the community of letters truly international.

— Mr. Clark, at Cambridgeport, is making the largest refracting telescope in the United States for the naval observatory in Washington. It has an object glass 26 inches in diameter, being 11 inches larger than the one at Harvard College, and when finished is worth $23,000. The two glasses—it requires two to make an object glass—weighed in the rough 250 pounds, and cost $7,000. They arrived in this country about six months ago from Birmingham, England, and ever since the work of polishing and preparing them has been continued unremittingly. Over fifty pounds have been cut from the flint glass, which now weighs 110 pound, and the other, when finished, will weigh about seventy-three pounds. The total cost of the instrument will be $46,000.

PUBLISHERS' NOTES.

We desire to call attention to the advertisement of Mr. W. A. Haward in another column. Particularly at this season of the year college men have occasion to patronize the jewelers largely and a great number of orders are sent to New York. For many years Mr. Hayward has given particular attention to society and badge work, and a long experience enables him to produce better and cheaper work than most other houses

Students passing through New York would do well to give him a call. For our part we can bespeak for them gentlemanly treatment, and have no hesitancy in saying that the fullest confidence can be placed in Mr. Hayward's statements.

Miller Bros. of 69 Nassau St., N. Y., have a new microscope which students of botany and geology would do well to examine, as it will render them invaluable assistance in the study of these branches, and afford pleasant entertainment at all times. A full description of the instrument can be had by sending for their catalogue to the above address.

Any student can make money with very little trouble by taking an agency for the "Graham Linen Marker," 12 School St., Boston, Mass. Your fellow students all need one, and it is one of the best markers manufactured.

Ward's Ink is becoming one of the most popular inks in use. It flows freely, and will not thicken and leaves good, black indellible marks.

Henry S. Dennison, 1151 Broadway, N. Y., is doing some very handsome work on diplomas in the way of filling in and engrossing. A diploma is something which is valued for a lifetime. Great taste can be displayed in getting them up. Mr. Dennison makes a specialty of this work and he can be consulted with profit.

HERNIA.—It is now demonstrated that rupture can be surely cured without suffering. *Elastic Trusses* are superseding all others. We advise all, before buying metal trusses or supporters, to send for a descriptive circular to the ELASTIC TRUSS COMPANY, No. 683 Broadway, New York.

THE OLD FLAG.—In fact, both young and old flag without Williams' Extract Jamaica Ginger.

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From Yale Courant, June 12.

YALE *vs.* HARVARD.

We went to press last week with the mournful tale of the preceding Harvard game, expressing the hope that another contest would show better things. That hope has been realized and in a spirit of mingled joy, anger and sorrow, we herewith proceed to chronicle the second game which transpired last Saturday, and resulted, according to the best authorities, in favor of Harvard by a score of 18 to 17.

The nine accompanied by a few backers and endowed by the usual courtesy of Mr. Scranton with half-rate tickets, left New Haven for the Hub on the 3.10 train, and after a wearisome and monotonous journey, entered its classic shades at about 9 P. M. Quarters were secured at the Tremont and after most had partaken of supper, sweet sleep undisturbed by college orisons was courted. Rising late, two or three hours were whiled away in visits to places of interest about Boston, and in particular the heart of our R. L. was gladdened by a sight of the famed coliseum, not to mention a telescopic view of the Common. Painful to relate, the Great Organ went unvisited. The weather was strikingly similar to that of our preceding visit, the Sun at one moment breaking his watery bonds and cheering the hearts of expectant ones, at another time shrouded in mist and nursing a ghastly drizzle. Nevertheless at about two in the afternoon the weather brightened, and the Nine mounted the horse cars and proceeded to the grounds of the Boston B. B. C.

The weather thickened up again as our Nine reached the ground, and a view of the grounds themselves was hardly calculated to abate the hydrostatical impression. They are situated in the lower part of Boston alongside of the Boston and Providence Railroad, over which the trains run every fifteen minutes or so, creating a deafening noise, begrimming the atmosphere with smoke and seriously interfering with the pleasure of the national game. The land is low, the soil clayey and watery, and the frequent musquito pipes in melancholy strain. Last Saturday owing to the previous rains the field was dotted with puddles, but a copious libation of sawdust and tanbark at last made it presentable.

Mr. Fred Cone, a gentleman formerly connected with the Boston B. B. C. was selected as umpire and Yale, having begun the game under good auspices by winning the toss sent her adversaries to the bat. Harvard began by getting two runs Eustis leading off by a splendid two base hit to the right field. Yale then took her turn and notwithstanding a palpable error of the umpire in putting out H. C. Deming at second base thus giving a double play to Harvard, she succeeded in getting in five runs after two were out. In the second inning Harvard batted well for four, Yale also by heavy batting obtaining two. Three men in succession went out on each side in the third inning, the totals at this point standing Harvard six Yale seven. Both sides now girded themselves for work and in the next three innings Yale added but two and Harvard nothing to their respective scores, the totals at the end of the sixth inning standing Harvard six Yale nine. Harvard in the seventh innings, however, by a series of heavy hits assisted by an error or two of Yale, made seven and as Yale made nothing, things began to look blue or rather black enough. In the eighth inning Harvard made two off a sad muff of H. C. Deming in centre field which was succeeded by a home run of White by a ball over the right field fence. Then Yale with the score allowing Esterbrook his run, fifteen to nine against her, went in and by some magnificent batting, assisted by an error or two of Harvards, added eight to her score closing the inning two ahead. Total, Yale 17, Harvard 15. Then amid breathless suspense Harvard went in for her last inning. Their first man passed a ball or two palpably good and took his base on three balls. The second batsman took his place and after waiting for a good ball struck hard to Maxwell, who taking it neatly passed to Day. The latter put his foot on second base and with plenty of time, threw wildly and excitedly to Barnes who failed to get the ball and the runner took second. Chisholm the next striker struck fiercely to Barnes who got the ball all right, but starting for first base slipped and fell on the muddy ground and lost his opportunity. Kent struck for his base and got it Chisholm and Esterbrook going to second and third respectively. Two to tie and three men on bases, then Eustis took the bat and by a long sky ball to left field which spite of Nevin's desperate attempt fell just out of reach, brought in Esterbrook, but Chrisholm by Nevin's splendid throw was cut off at the home plate. One to tie, one man on a base, and two out. Then Hodges went to the bat and stood like a stick until the umpire who during the whole inning evinced dark ways, gratified his virtuous but palpable intent and sent him to first. Then Tyler took position with an apparent intention of hitting the ball but a whisper from White after a ball had been called cooled his ardor and after making a strike as a blind, six or seven balls seemed enough in the opinion of the umpire and he too took his base. Then White came in and hit to right field bringing in two men, Tyler risking too much and going out at home base closing the inning. Total, Harvard 19, Yale 17.

Yale went in with two to tie and three to win. Day had one good and one bad ball called strikes and failing to hit the third went out. Foster hit weakly to Esterbrook and went out at first. H. C. Deming made a fine hit to left field and stole second in handsome style. Barnes took the bat in a gritty determined way but went out on a weak bounder to first, ending the game and series. Harvard 19, Yale 17.

Concerning individual plays on the side of Yale, Bentley and Maxwell excelled. The former caught in his best style and batted beautifully. Maxwell made several beautiful stops of swift grounders, pitched steadily and swiftly, and led his side at the bat. Richards also, who strange to say had not a single ball batted to him during the game struck finely, winning first base every time but being forced out at second four times by Hotchkiss whose weak batting and fielding told terribly against our nine. Day played his base finely on the whole but unfortunately failed at the critical period, and Barnes must be credited with a fine catch of a low liner. On the Harvard side, Eustis and White carried off the batting honors, the latter catching finely though not so well as the week before. Kent also played his base well. Of errors on the Yale side the worst were a fumble and the bad throw of Day, a bad fly miss by Barnes, another by H. C. Deming and an unfortunate underthrow by Foster. Esterbrook, Hodges and Annan each made bad misses on the Harvard side. Tyler muffed an easy fly and Kent at first missed a thrown ball which on the whole should have been taken. The game as a whole was we think pretty well played on both sides. Errors were made it is true, but each nine played with energy and pluck. Yale has certainly no reason to feel that her Nine has disgraced her. And now a word with reference to the umpire.

We recognize the fact that the position of umpire is at best, a thankless one; that strictures on him by the defeated party are generally speaking, in bad taste and useless and all to often an expression of spite, rather than sober, deliberate belief. But we should feel untrue to our own convictions and to the sentiment of all Yalensians, and most disinterested outsiders who witnessed the game if we failed to protest against the treatment that our Nine received in the last inning. Up to this point Mr. Cone umpired impartially; mistakes we think he made, but they were few and evenly balanced. But in the inning in question and at such a crisis of the game, to favor a palpable intention of Harvard's poorer batsmen by calling rigorously, contrary to his previous habit every second ball, may not have been deliberate partiality, but certainly resulted in unfairness. We say nothing of his allowing during the same inning four balls to pass White (a good batsman) without calling, or his subsequent strictness in the matter of strikes when our own men were at the bat. The intentions of the three Harvard batsmen were as plain as daylight, as the strictures of the crowd, partisan as it was, plainly showed and for the umpire to lend himself consciously or unconsciously to their endeavors certainly was thoroughly unjust. Yale feels that she fairly won, or at least unfairly lost the game and while she cannot perhaps blame Harvard men for taking advantage of the partiality or ignorance of the umpire the present lesson will, we trust, be sufficient to induce her to exercise discrimination in the matter of selecting umpires for future games.

The crowd was an intensely partisan and noisy one, as was to be expected, and certainly showed a wide appreciation of our adversaries good plays. To include in the latter category, however, modesty at the bat and the passed balls of an adversary is an experience new to Hamilton Park, noisy as our partisans there usually are. It was a discriminating crowd, too, and discovered many points for applause that were not so evident to an ordinary spectator.

The dispute about the exact score results from Esterbrook's running in during the seventh inning as the third hand was forced out at second. We understand the umpire after the game refused the run to Harvard, which leaves the score 17 to 18. The details being as follows:

YALE.

	R	O	B	T	L
H. C. Deming, c. f.	2	3	2	2	1
Barnes, 1 b.	3	3	2	2	0
Richards, s. s.	1	4	5	5	0
Hotchkiss, r. f.	3	3	1	1	0
Maxwell, p.	3	1	2	3	3
Bentley, c.	1	4	2	4	1
Nevin, l. f.	2	3	1	1	0
Day, 2 b.	1	2	1	1	2
Foster, 3 b.	1	4	1	1	0
	17	27	17	20	7

HARVARD.

	R	O	B	T	L
Eustis, r. f.	5	1	3	6	0
Hodges, 2 b.	3	3	1	1	0
Tyler, l. f.	2	3	0	0	1
White, c.	3	2	4	9	0
Goodwin, p.	1	4	1	2	0
Annan, s. s.	0	4	1	1	1
Esterbrooks, 3 b.	2	3	1	1	0
Chisholm, c. f.	0	6	0	0	0
Kent, 1 b.	3	1	1	1	1
	19	27	12	21	3

Yale,	5	2	0	1	1	0	0	8	0	17
Harvard,	2	4	0	0	0	0	7	2	4	19

Yale,	5	7	7	8	9	9	9	17	17	17
Harvard,	2	6	6	6	6	6	13	15	19	19

Umpire, Mr. Fred. Cone, Boston.

Scorers, { Harvard, A. L. Ware. / Yale, H. W. B. Howard.

Runs earned, Harvard, 3.

" " Yale, 1.

On the side of Harvard Reed was prevented from playing second base, and Annan was weak from recent sickness and hardly able to do himself justice. On the Yale side, the continued lameness of C. Deming prevented his participation in the game.

"One has to wade through so much that is useless to get at anything really worth reading." This is the complaint of those who try to read many papers. Why not have somebody else do the reading and pick out what is valuable? This is done by the editor of *The Week*. Specimens sent free on application to HOLT & WILLIAMS, Publishers, 25 Bond Street, New York. 69d

TO THE ALUMNI
OF
PHILIPS EXETER ACADEMY.

The Trustees invite all those who have been connected with or are interested in this institution to attend the dedication of the new Academy at Exeter, N. H., on the 19th of June next, and to join in commemorating the completion by the venerated Principal of fifty years in its service.

An address will be dellvered in the Hall of the new building at 11 o'clock, A. M., by the President of the Board of Trustees; and a dinner, at which John G. Palfrey, LL. D., has consented to preside, will be served at 2 o'clock P. M. Tickets for the dinner, at $2.50 each, may be obtained at the bookstore of C. W. Sever, Cambridge, or from the undersigned at Exeter; and in order that suitable provision may be made for those who desire to attend, they are requested to make early application for them.

S C BUZELL, Treasurer.
May 23, 1872. EXETER, N. H
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THE COLLEGE COURANT.

VOLUME X. SATURDAY, JUNE 22, 1872. NUMBER 25.

"HIC VIR, HIC EST."*

Often when o'er tree and turret,
Eve a dying radiance flings,
By that ancient pile I linger,
Known familiarly as "Kings,"
And the ghost of days departed
Rise, and in my burning breast
All the undergraduate wakens,
And my spirit is at rest.

What, but a revolting fiction,
Seems the actual result
Of the Census's enquiries
Made upon the 15th ult.?
Still my soul is in its boyhood;
Nor of year or changes recks,
Though my scalp is almost hairless,
And my figure grows convex.

Backward moves the kindly dial;
And I'm numbered once again
With those noblest of their species
Called emphatically 'Men';
Loaf, as I have loafed aforetime,
Through the streets, with tranquil mind,
And a long-backed, fancy mongrel
Trailing casually behind.

Past the Senate-house I saunter,
Whistling with an easy grace;
Past the cabbage-stalks that carpet
Still the beefy market-place;
Poising evermore the eye-glass
In the light, sarcastic eye,
Lest, by chance, some breezy nursemaid
Pass, without a tribute, by.

Once, an unassuming Freshman,
Thro' these wilds I wandered on,
Seeing in each house a College,
Under every cap a Don;
Each perambulating infant
Had a magic in its squall,
For my eager eye detected
Senior Wranglers in them all.

By degrees my education
Grew, and I became as others;
Learned to blunt my moral feelings
By the aid of Bacon Brothers;
Bought my tiny boots of Mortlock,
And colossal prints of Roe;
And ignored the proposition
That both time and money go.

Learned to work the wary dog-cart
Artfully thro' King's parade;
Dress, and steer a boat, and sport with
Amaryllis in the shade;
Struck, at Brown's, the dashing hazard;
Or (more curious sport than that)
Dropped, at Callaby's, the terrier
Down upon the prisoned rat.

I have stood serene on Fenner's
Ground, indifferent to blisters,
While the Buttress of the period
Bowled me his peculiar twisters;
Sung "We won't go home till morning":
Striven to part my black-hair straight;
Drunk, (not lavishly) of Miller's
Old dry wines at 78:—

When within my veins the blood ran,
And the curls were on my brow,
I did, oh ye undergraduates,
Much as ye are doing now.
Wherefore bless ye, oh beloved ones:
Now unto mine inn must I,
Your "poor moralist," † betake me,
In my solitary fly.

* From "Fly Leaves," by C. S. C., soon to be published by Holt & Williams: 25 Bond Street, N. Y.

† "Poor moralist, and what art thou?
A solitary fly."

GRAY.

Editor of The College Courant:

Deeming your paper an excellent vehicle for such a purpose, I propose sending to you a series of remarks on a subject, the title of which is given below. It would be too long for one or two numbers; and as the article is written in a somewhat rambling style, it is thought advisable to make such a division as would best suit your convenience, and that of the writer. On the supposition, therefore, of its being acceptable, I send you the following which is chiefly introductory.

Yours, respectfully,
Tayler Lewis.

IMAGO VOCIS.

THE RHYTHM AND PRONUNCIATION OF THE ANCIENT LANGUAGES.

BY PROFESSOR TAYLER LEWIS, UNION COLLEGE.

1.

"Then said the angel unto me: Go thy way, Esdras, weigh me the weight of the fire, or measure me the blast of the wind, or call me again the day that is gone." 2, Esdras, iv, 5.

Science claims to have accomplished two of these demands, and in a certain department of history, there has even been an attempt to realize the third. Niebuhr and Arnold have done much to modernize the ancient life; but it may be a question whether they have not in many cases put a false appearance upon the past, with the effort to reproduce it in the forms of the present. With the ancient thought, however, we are much more familiar than with the ancient action. We are aided in this by a rich literature, whose written words and apprehended ideas may be made as clear to us as anything in our own language. We have, too, something more than the bare thought. In this voiceless department of mere intellectuality, as it might otherwise seem, there is, also, an emotional interest. We feel it in the contemplation of our great time distance from the ancient writer, as compared with the intimacy of our mental approach.

"Thou art so near, and yet so far."

It is a spiritual intercourse, such as we may believe takes place when souls have passed beyond the limitations of space and time. Homer, Aeschylus, and Plato, are before us in all that is most personal and real in their veritable selves. We really speak with them. Soul meets soul in the telegraphic signals that bring us intelligence from that far off ancient shore. It is as when we gaze upon the lunar hills, which the telescope brings so near the eye that we fancy we could almost touch the brilliant peaks that stand so immeasurably remote. Or it is like conversing through the electric messages. We seem to speak face to face;

—"Though wide between us lie
The shadowy mountains and the roaring sea."

It is thus that the alphabetic characters are a true telegraphy, or *far writing*. In passing from scribe to scribe, some of them have been so varied as to have almost lost their original outlines, yet are they still the same in orthographical order, and in their unchanging relation to the ideas. They still convey to us the old world thought more distinctly lined, it may be, in the prismatic spectra cast from these distant suns, than in those derived from bodies nearer to us in time and space. Homer and Euripides are clearer to us than Shakespeare, Cowley, and Milton. It may be said, too, that our more careful study makes us to understand the old author better than many understood him, even in his own day. The chain of intelligence is complete; the intercourse of thought is perfect; so, too, is the flow of emotion; yet we are not wholly satisfied. There is still another question; from all interest in which we cannot wholly divest ourselves: How may we hope to reproduce the sounds represented by the written characters, and themselves still more nearly representative of the underlying ideas. It may be said we have the substance, the thinking, the facts, all vividly pictured, photographed, we may say, even though the intermediate phonetic stage be lost. Why then trouble ourselves about the "*imago vocis*," the long lost accurate pronunciation of the writer's words? We have the telegraphic or spiritual word, why should we listen so intently for the mere echo which cannot change or modify the idea? Questions however, of this kind have an interest aside from the more obvious utilities. We would dearly love to read a Hebrew Psalm as it was "said or sung" in the temple service. Pindar would certainly have a new interest for us, if we could not only scan him mathematically, but pronounce his words as he pronounced them, and give the toned syllables of his "lyre-ruled hymns," (ἀναξιφόρμιγγες ὕμνοι), the exact music with which the chanter so ravished the ear at the Olympic games. The rythm, so far as time and ictus are concerned, can be determined; for they have in them, as we may attempt to show, immutable elements; but the melody, the tones, escape us; for though we understand them, theoretically, as risings and fallings of the voice, no notations that are reliable, and no traditions, can give us the true intervals, on which the effect must have so much depended. So also, a line of derived alphabets historically traced, or an unvaried tradition, or strongly preserved proper names of persons and places, may give us some confidence in respect to the more prominent consonants. Imitations of natral sounds such as we find in "The Birds" and "The Frogs" of Aristophanes, or phonetic hints scattered here and there in other ancient writings, may also give us some aid here. Phonetic rules, too, and classifications according to the organs, may assist in making the general distinctions of labial, guttural, or dental. But the fleeting vowels, how shall we catch them? In some cases they are a mere sighing breath, in others, a wider or narrower opening of the mouth, or a lighter or stronger impetus of the vocal utterance—all matters of *degree* without any thing scientifically, or physiologically determinable. How then, can we know certainly, or even with any good degree of probability, that our pronunciation, or any modern pronunciation, can here be relied on? If we except the degenerate Greek of a much later day, and the corrupt Monkish Latin, a thousand years, or more, have elapsed since the last vocal utterances of the old languages left their impressions on the air. These are still undulating, somewhere in the universe of space, but they have long since passed away from our sphere, and in our best efforts at regaining them we know not where we are. We may fancy ourselves near, and yet be "far, far wide," wandering about in a region of conjecture,

Decepti imagine vocis,

or cheating ourselves with a caricature instead of any thing like a correct representation of the ancient tongue. Can this desire be gratified? It is a question that has been much agitated among scholars, and has of late been debated with renewed interest. We cannot hope to answer it satisfactorily, and would, therefore, content ourselves with an examination (so far as that may be deemed an aid in the inquiry) of the difficulties that lie in the way.

THE EDUCATIONAL CRISIS IN PRUSSIA.

[The following in reference to the great change in the schools of Prussia is from the pen of Prof. Wm. Wells of Union College, and was written for the *Union College Magazine.*]

Prussia has just successfully passed through an intense crisis which has agitated it in some regards more deeply than even the war with France. It has been a great internal struggle with bitter enemies within its own bosom, who have been most determined to roll back the tide of liberalism, which for a few years has made such marked advances within her borders.

Twenty-five years ago the public school system of Prussia was a model for all nations, and everything re-

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garding it was eagerly studied by all educators who were desirous of advancing in their profession. Other nationalities, on both sides of the ocean, sent numerous agents to investigate and report upon it, and it is not too much to say that all of the modern school systems in liberal countries, owe much of their efficiency to the lessons learned in Prussia. At that time the public schools of Prussia were under the control of a few of the most liberal and intelligent scholars that even this ingenious nation has ever known. But their principles and practice were too liberal for the ultra conservative portion of the nation, and during the reactionary years that followed, these famous schools gradually fell into the hands of the High Church men among the Lutherans and the Jesuit priests in the Catholic portions of the country.

The result was worse than a stand-still; it was absolute retrogression, until the intelligent portion of the Prussian people became actually ashamed of what had formerly been the brightest jewel of their crown, and their greatest attraction to enlightened visitors from other nations. The fault lay wholly in the error of placing the people's schools in the hands of the State clergy, both Protestant and Catholic. The vast majority of the school inspectors in the country were the parish priests, and those only appointed such teachers as would propagate their tenets and do their will, and in many instances these priests themselves became the teachers of the public schools in addition to their parochial studies.

As soon as the country felt a little recovered from the fearful agitations of the war, the liberal portion of the population began to clamor for a school reform; but this demand has been almost strenuously resisted by the conservatives, who acted as if their very existence depended on retaining their status in the schools. The loudest and most persistent enemies of reform were the Catholic priests, who raised the battle-cry of "Godless schools," and left no stone unturned to accomplish their end. At last, a bill was brought up in the Prussian Parliament, whose object was to place the inspection and oversight of the public schools in the hands of the State. Bismarck, who had hitherto stood aloof from the contest, came out fairly and squarely in favor of it, and made it a ministerial question, thus identifying himself unmistakably with the liberals.

This was the signal for the conservatives of all shades to combine against him, and all the malcontents in the realm joined hands to overthrow him. But he boldly met Jesuits and High Church men, feudalists and Poles, on the Parliamentary arena, and after a terrible contest, such as was never before known in the Prussian annals, he came off gloriously victorious. The crisis was so intense for a few days that the nation scarcely ate or slept, and the results of the victory will be of more lasting good to the entire country than any measure yet adopted by their legislative body. In all his eventful career, Bismarck never gained a nobler triumph, or one that will cling more closely to his name. It has endeared him to the liberal portion of the nation who have hitherto been slow to place their confidence in him, for in the course of the struggle he came so decidedly against many with whom he had formerly acted, that he virtually destroyed his bridges behind him, and left no way open to retreat.

Now one great significance of the Premier's position is its natural consequence. He has entered on a path that must, in the nature of the case, commit him to the separation of Church and State, and he has stirred up enemies who, no longer having any hope of his support, will annoy him into another battle sooner than they anticipate. The history of this event proves that while the astute statesman has been comparatively quiet he has nevertheless been a close observer, and has doubtless long had his convictions as to the course that would be forced upon him. And the Germans themselves now begin to have confidence, that the man who has already done so much for them, will eventually find means to rid them of the great pest of the nation—the swarm of unprincipled Jesuits who meddled with every question which concerns the consolidation or the peace of the new State.

The person of Bismarck was never before brought into such bold relief in regard to home measures, and he was never so much regarded as the hero of the age, in whom the hopes and the longings of the millions are centered. Even the German students, who until recently have been his bitter enemies, are now collecting money to form a "Bismarck fund," with a view of endowing a professorship of liberal political science in the new University of Strasbourg.

It was evidently no pleasant task for him to break with the friends of his youth, his former colleagues, and the traditions of his family; but it was fast becoming evident that in a few years a religious war must burst forth in some of the Prussian provinces, unless a stop were put to the secret conspiracics of the priestly caste. The Ultramontanes were fast spreading over the countries annexed to Prussia as a result to the triumph over Austria in 1866, and inducing sound Protestant men to join in the common crusade against the State, on the ground that the latter was making war against the religious institutions of the country. But neither the Prussian nor the new Imperial Government has had the least desire to cross the path of any religious convictions or prejudices. They preferred not to meddle with these matters at all, until their opponents, by most unwarrantable interference with the affairs of the State, forced them into the position of self-defense.

The gods seem to have made the Jesuites mad, with a view to hasten their downfall, for their history during the last two or three years has been one of continual defeat, and they have dragged down with them all who have espoused their cause, or accepted their support. Queen Isabella of Spain was a prominent victim, as was the King of Naples, and the Emperor Napoleon. Even the Pontiff himself owes his misfortunes to these advisers of evil omen. Having killed off nearly all their friends, they became arrogant enough to measure steel with their enemy and he has completely floored them. The Romish party in Germany prayed for the triumph of French arms in the interest of their church against their nation, and when this prayer was not answered, they tried to destroy it by internal dissention. But their wiles have thus far all signally failed, and it looks now as if Germany had indeed passed through the great crisis that has placed the nation on the side of unsectarian schools.

WOMEN'S EDUCATION IN ENGLAND.

The English correspondent of *The Christian Advocate* writes as follows concerning a scheme for the superior education of girls in England:

"As we have got on to the subject of education, I may refer to an interesting fact which has lately come to my own knowledge. A few weeks ago the private Secretary of the Princess Louise, Marchioness of Lorne, addressed a note, by "command" of the Princess, to the Principal of West Training College, requesting him to attend on a certain Saturday forenoon, at a fixed hour, at No. 1 Grosvenor Crescent, to consult with a few other gentlemen of educational experience in reference to a scheme for establishing superior schools for the education of girls by means of a Limited Liability Company, the Princess having placed herself at the head of this movement as President of the Association for Promoting the Superior Education of Girls and Young Women. The association of the Princess with a Limited Liability project was in itself curious, reminding one of the fact that her brother-in-law, Lord Archibald Campbell, under the style of plain Mr. Campbell, is a partner in a cotton broking firm at Liverpool. But what is much more interesting is that the Princess is thus actively connecting herself with a metropolitan—indeed, I may say, a national—movement for promoting the superior education of women. It is just another evidence that the daughters, at any rate, of the late Prince Consort inherit not only his artistic tastes, but also his enlightened educational and philanthropic zeal and benevolence. So far as I know, all the princesses resemble both each other and him in this respect. The Princess Louise, it is well known, is highly accomplished in the arts, having in particular a fine gift as a sculptress. But to resume, the Wesleyan Principal betook himself at the appointed time to No. 1 Grosvenor Crescent, which is the town-residence of Lord Lorne. He was shown up into a small room, very like a boudoir, elegantly but somewhat plainly furnished, having around its walls book-cases containing English classics, handsomely bound, and a considerable number —apparently a series—of small pictures, looking like German pictures. Low chairs, a small couch, a French screen, helped to make up the furniture. The room was just large enough for ten people to sit comfortably round it. There were gathered in it half a dozen persons, including Lord Lyttelton and Sir James P. Kay-Shuttleworth, both accomplished men, men of wide and various knowledge and high educational authorities, and the Wesleyan minister. The only other minister present was a canon of the English church, who is also a principal of a Training College. Lord Lyttelton (who, by the by, is the brother-in-law of Wm. Gladstone) was called out of the room by a servant, and reappeared very shortly, in company with the Princess Louise, Lord Lorne, and Lady Augusta Stanley, (wife of Dean Stanley and the Queen's most intimate friend). The company having risen, were all of them immediately and silently invited to reseat themselves, Lord Lorne alone remaining unseated. Leaning on the back of a low French screen, his lordship proceeded to read through a proposed prospectus, paragraph by paragraph, and sentence by sentence, taking the suggestions, and finally the decision, of those assembled as to every point, and as to each phrase which merited any special attention. He did his business in a thoroughly intelligent and business-like manner. The whole prospectus was finally settled as it has since been issued. When all the business was over Lady Augusta Stanley brought the Wesleyan minister face to face with the princess for a brief conversation, her ladyship being a personal friend of the Principal. A few pleasant, modest, intelligent words from the princess, a slight conversation between the three, and then the general breaking up of the company as they paid their respects and passed out of the room, brought this pleasing interview to an end."

COMMENCEMENT AT BALDWIN UNIVERSITY, OHIO.

Commencement exercises of this institution, beginning Wednesday evening, May 29th, and closing Thursday evening, June 6th, were of an unusually interesting character. The first four evenings large and appreciative audiences were highly entertained by the valedictory exhibitions of the four literary societies, the Phrenocosmian and Philozetian, (gentlemen), the Alethean and Clionian, (ladies). Never before have these annual exhibitions given so good evidence of thorough discipline and substantial scholarship.

Commencement Sabbath was a day of peculiar interest. The weather was unusually fine and at 11 A.M., a large audience assembled in the commodious chapel to listen to the baccalaureate sermon by Prof. Schuyler. The professor's clear and forcible presentation of the truth could not fail to make its impression upon all present. At 7½ P.M., the annual lecture was delivered by Rev. W. B. Taggart, after which the Sacrament of the Lord's Supper was administered.

The term examinations were commenced Friday morning, and continued until the following Wednesday noon. Though all the examinations gave indication of faithful study on the part of the students, yet that of the class in Schuyler's Logic was quite remarkable. The study of Logic has been very popular in this school since the introduction of the text book now in use. In the hands of any competent instructor the book cannot fail to

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give satisfaction, but when, as here, the author himself is the teacher, its value is greatly enhanced.

Monday evening Rev. Granville Moody addressed the Phrenocosmian and Alethean Societies, subject, "The True American."

Tuesday evening the Philozetian Society was addressed by Rev. E. F. Hildreth, on "The Youth and Manhood of America."

At 2 P.M., Wednesday, the laying of the corner stone of the New College church, (German), was accompanied with appropriate ceremonies. The evening was occupied by the annual exhibition of German Wallace College.

Thursday, at 9 o'clock A.M., a large concourse of people assembled in the new chapel, which was artistically decorated for the occasion, to witness the closing scenes of the week. The exercises consisted of the orations and essays of the graduating class, interspersed with rare music under the direction of Prof. F. M. Davis. These were followed by the Baccalaureate Address by the president, Dr. Godman, and conferring of degrees. The exercises were continued until 5 P.M., with an intermission, at noon, of two hours. The essays and orations were very creditable not only to the class, but also to the institution. The Doctor's address on the subject, "The Christian Scholar," was a noble production of a gifted mind.

At the close of these exercises all Alumni present together with the Faculty and Trustees of the University, and of German Wallace College, were invited to the president's house where they were pleasantly entertained. The evening was devoted to the reunion of the Alumni.

The announcement on Commencement day that the old chapel was to be taken down and a fine structure erected on the spot, was greeted with hearty applause.

Baldwin University is becoming more efficient year by year, and in connection with German Wallace College, is destined to be a great power for good. *

SCIENTIFIC.

Infusoria and Antiseptic Agents.—Dr. J. Dougall, of Glasgow, in his recent experiments on this subject, has reached some rather novel and probably useful conclusions. Of the various substances used to prevent the development of animalcules, etc., in vegetable and animal infusions, he found the metalic salts to be by far the most powerful, sulphate of copper standing at the head of the list. The organic acids were decidedly less efficient; and carbolic acid occupied the fifth place, not the first. Last followed the alkaline earths which were all very low, except bichromate of potassium. It would seem to be the tendency of these facts to show that for many purposes of disinfection, sulphate of copper would be most eligible; and that chromic acid and bichromate of potassium are better than the fashionable carbolic acid. —*Naturalist.*

Arborescent Silver.—The beautiful specimens known by this name, may be easily produced, by the following method: A drop of a very weak solution of nitrate of silver is placed on the centre of a slide and a piece of fine copper or brass wire, suitably bent, is placed with one end on the slide in the centre of the drop and the other end lying firmly on the table. Crystalization commences immediately, and when it is sufficiently advanced, the wire is removed, the remaining liquid poured off and the crystals washed with a drop of distilled water, (containing a trace of gum to fix the crystals on the glass) and mounted dry in a cell. The time required to obtain the best results will be learned by a few trials, and a variety of specimens may be obtained by varying the strength of the solution or the size of the wire.—*Science Gossip.*

New Hygrometer.—Mr. Whitehouse describes, in the *Proceedings of the Royal Society*, a new hygrometer, with which he has obtained some valuable results. It consists of three thermometers of identical construction, the bulb of the first of which, remains dry, that of the second is kept moist by the usual method, while that of the third is kept wet with concentrated sulphuric acid, which is allowed to trickle over the bulb by means of a capillary syphon. The acid absorbs the moisture of the air, and uniting with it, produces an elevation of temperature which is proportional to the amount of hygrometric vapor. The diluted acid falls into a reservoir placed beneath the bulb, where it is collected. The elevation of temperature above referred to is, as the author finds, considerable, and varies sensibly with the amount of moisture present in the air; though no coincidence was observed between the amount of this elevation and the depression observed with the wet bulb thermometer.

Professor De La Rive calls attention, in the *Bibliotheque Universelle* to the fact that he made use of sulphuric acid in hygrometery as long ago as 1825. He plunged the bulb of the thermometer in the acid and then exposed it to the air; an elevation of the mercurial column took place, the rise being sometimes equal to thirteen and a half degrees Reaumur. He found the correspondence between this and the common wet bulb hygrometer closer than he had previously expected; indicating in one case 95°.50 when the ordinary hygrometer indicated 95°.43 of moisture.

The Development of the Lobster.—While engaged in investigation, carried on under the superintendence of the U. S. Commissioner of Fisheries, Professor Baird, in Vineyard Sound and thereabouts, last July, Mr. S. J. Smith was fortunate enough to procure specimens of the young of the American lobster, and thus to throw some light—singularly enough for the first time,— upon its development. The results are given in a paper published in the June number of the *American Journal of Science.* The specimens were taken at the surface by means of a hand or a towing net. They represent four distinct stages in the growth of this crustacean. The first stage of larval life—the exact age of which was not ascertained, though it was probably but a few days, in which time, they may have passed through one moult, possibly,—finds the little animal a free swimming Schizopod, about a third of an inch long, without any abdominal appendages and with six pairs of legs, to which are attached powerful swimming organs. The eyes are bright blue; and the body is orange to reddish orange in color. The second stage shows an increase in the size of the little animal, and a development of a portion of the abdominal legs, with other and less important changes. In the third stage observed, the animal has become half an inch long, the anterior legs have largely increased in size, the second and third pairs are furnished with claws, the abdominal appendages have become conspicuous, and the "pockets" have appeared though they yet differ from those observed in the adult. The fourth stage finds the young lobster three-fifths of an inch long. It has lost its schizopodal features and has become to all intents and purposes, an actual lobster. It is still, however, a free swimming animal, moving through the water very rapidly, by means of the abdominal appendages, and darting backward when disturbed, with the tail, frequently jumping out of the water like a shrimp. It is probable that there is yet another stage of development before the complete lobster is reached. From the data obtained, it is also probable that these changes all take place in the course of a single season. The paper is illustrated by an excellent plate, drawn from nature by Mr. Smith.

The Star Depths.—Mr. Richard Proctor recently delivered, at the Royal Institution, a lecture on star depths. He dwelt on the contrast between the ideas which we form from the aspect of the starry heavens, on a calm clear night

> When all the stars shine
> And the heavens break open to their highest,

and the scene disclosed to the mind's eye of the astronomer. Each star, amid the solemn depths, is in reality, a sun, instinct with fiery energy and urging its way with inconceivable velocity through space. Nor are these suns exempt from mutation. Several among them are losing year by year a portion of their light and heat, equal to the requirements of our earth, or of the whole solar system even for hundreds of years; others are growing brighter; new stars have appeared, and stars known to the ancients have vanished. Thus the question arises whether our sun, a star like the rest, may not also be subject to changes. If so, the question is one of extreme interest to ourselves, not as directly affecting our wants, but as involving the very existence of more or less remote generations. To obtain a direct answer to the question would require observations of the sun continued with unflagging patience for many years. But indirectly the question may be answered by comparing the present aspect of the heavens with the scene presented to those who first studied the stars. The lecturer then proceeded to inquire whether any traces remain of those features of resemblance which first led the ancients to call certain star groups by certain names. He showed that, though the constellations of the Great Bear and the Lion as at present figured do not in the least remind us of the animals they are supposed to represent, yet the figures of these animals may be fairly traced if we include larger regions of the heavens than the present constellation boundaries permit. For instance, if *Canes Venatici* be included with *Ursa Major* and the three stars at present regarded as the tail (of a tailless animal) be regarded as forming an outline of a part of the back, then we have a figure not unlike a bear. Again, if we regard the group of stars forming the northern claw of *Cancer* as marking the place of the lion's head, the stars in *Leo Minor* as forming the mane, and *Coma Berenices* as the tufted tail of the animal, the space thus indicated will be found to include a very fair representation of a lion. In like manner the stern of the ship *Argo* is very fairly indicated if the stars forming the hind legs of *Canis Major* are included in the configuration. Hence the lecturer arrived at two conclusions—1st, that the ancients were not solicitous to occupy the heavens with constellations fitted in like the countries in a geographical map; and 2ndly, that the stars exhibit at present the same general configuration which existed when the most ancient constellations were formed. From the second of these conclusions, we may infer that probabilities are on the whole in favor of a satisfactory degree of steadfastness in the sun's luster.

The remainder of the lecture was occupied by an explanation of the general principles on which the determination of steller distances depends. This introduced the consideration of the enormous extension of the steller universe when, with distances from star to star so enormous as have been proved to exist, the number of stars is so vast as to be practically infinite. Amongst the illustrations of this part of the lecture was an illuminated diagram showing 324,198 stars; but the lecturer mentioned that the Herschels' 18 in. telescope would show 530 times as many stars and the great Rosse telescope, more than 2,000 times as many.—*Mechanics' Magazine.*

— The fourth year of study in the Pacific Theological Seminary will commence at its halls in the city of Oakland, Cal., Thursday, Aug, 15th, next.

— Wednesday was the annual class day at Rutgers Female College, and also the anniversary of its Alumnæ Association. Miss M. A. Brown, A. B., of the class of '71, presided over the Alumnæ Association, and an address of welcome was delivered by the President of the College; after which Miss M. A. M. Kipling of the class of '68 spoke on the "Days of Advance" before the "Nu-Nu-Sigma" Society. Miss Minnie A. Ayres presided at the class day exercises. A salutatory address was delivered by Miss S. H. Wilbur; an oration on "History" by Miss C. C. Hall, and one on "prophecy" by Miss H. J. Arthur. Miss A. E. Stevens presented the key, and delivered the charge to the minor class, Miss. P. Seligman receiving it and responding on behalf of the Juniors.

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THE COLLEGE COURANT

A WEEKLY JOURNAL

DEVOTED TO THE INTERESTS OF

COLLEGES, UNIVERSITIES AND THE HIGHER EDUCATION.

PUBLISHED BY

CHARLES C. CHATFIELD & CO.,

C. C. CHATFIELD. E. P. BROOKS.

RICHARD W. KEMPSHALL, BUSINESS MANAGER.

CHARLES B. DUDLEY, A.B., MANAGING EDITOR.

PROF. GEORGE F. BARKER, M.D., SCIENTIFIC EDITOR.

OFFICE, 458 AND 460 CHAPEL STREET,

OPPOSITE YALE COLLEGE, NEW HAVEN, CONN.

SATURDAY, JUNE 22, 1872.

THE Hassler Expedition, after waiting two weeks at Talcahuano in the south of Chili, set sail on April 25th for the Island of Juan Fernandez, where it arrived early in the morning of the 29th. On May 2nd the vessel left for Valparaiso which was reached on Sunday morning, May 5th, soon after sunrise. On May 10th the expedition again started for Callao. The time spent at Talcahuano was employed in examining the geology of the region and in securing specimens in natural history. At Juan Fernandez the time was similarly employed. On the return from that island it was designed to make frequent dredgings but the reeling apparatus proved defective and so not much was done. A late telegram announces the arrival of the expedition at Callao

WE have received a long communication from a former graduate of Yale, in which he calls attention to the leading article in the February number of the *Yale Literary Magazine.* The point of the communication is that the article in question is suspiciously like Herbert Spencer's" essay entitled "The Philosophy of Style", both in its leading thoughts and in its phraseology and terminology. We have examined the article in the *Lit.* in connection with the citations from Spencer's essay in the communication, and while we find no absolute agreement of sentences without quotation marks, yet it is pretty evident that the writer of the *Lit.* article had read "The Philosophy of Style" before writing his article, and that the ideas, phrases, and terminology of that essay had clung to him rather closely in constructing his own. We are hardly as severe on the writer of the *Lit.* article as is the the writer of the communication, yet we cannot but regard the former article as an unfortunate one ; especially as it is supposed to be entirely orginal, and to represent "the average literary culture of the college."

THE visiting committee which attended the recent anniversary exercises of Drew Theological Seminary have made a report in which they especially approve of (1) the general competency and promise of the young men of the several classes ; (2,) the religious life and spirit which pervade the institution ; and (3) the measures taken by the Board of Trustees to elevate the standard of scholarship required to enter the Institution. The statements of the committee on this latter head seem worthy of attention and approval. They say: "Already have too many, under the pressure of circumstances, been allowed to enter the school, whose attainments in elementary studies were altogether insufficient to enable them to prosecute successfully the regular course of study. Now an introductory course of four years in the classics and in science is required for admission to the regular course of theological studies. Two years of such introductory course must be had before coming to the institution, but, to meet the special needs of some whose age or other circumstances make a previous collegiate course impossible, provision is made at the Seminary to give instruction in the studies usually pursued in the Freshman and Sophomore years at college. But it is earnestly desired that all who possibly can will obtain a collegiate education before seeking admission to Drew Seminary."

PREST. WHITE'S REPORT ON THE SAGE PROPOSAL.

At a meeting of the Board of Trustees of Cornell University, held some time last year, a committee was appointed to examine and report concerning the establishment of an institution for the education of women in connection with the University; and also in regard to the proffer of an endowment for that purpose. A majority of this committee, have made a report through Prest. White, the chairman, which has been printed in pamphlet form, and covers some forty pages, 16 mo, of fine type. The exciting cause of the examination and report, as is well known, was the offer, by Mr. Henry W. Sage, of Brooklyn, a member of the Board of Trustees of Cornell University, of two hundred and fifty thousand dollars, to be paid within three years from the acceptance of the offer, on the condition, in his own words, that "instruction shall be offered to young women, by the Cornell University, as broad and as thorough as that now afforded to young men."

The committee thus appointed, according to their report, immediately began their investigations. Correspondence was entered into with persons in various parts of the country, who had had experience in the matter of the co-education of the sexes, and various documents bearing on the question were obtained. A subordinate committee, consisting of Prest. White and Mr. Sage, was also appointed to visit several of the leading Universities where co-education was practiced. This committee visited Oberlin College, the State University of Michigan, Northwestern University, near Chicago, the State Industrial University of Illinois, and Antioch College at Yellow Springs, O. The State University at Michigan had been previously visited by a member of the committee, and a valuable letter was also received from the president of the State Agricultural College of Iowa. From all these sources in connection with the correspondence before mentioned, the facts were obtained upon which the report was based.

That the report was a favorable one, and that Mr. Sage's proposal was accepted are matters of history. But it may be interesting and profitable to glance at some of the conclusions which caused the favorable decision, and admitted women to Cornell. But first we must commend the method of the committee. They spent no time in theorizing themselves and wasted none in listening to the mere theorizing of others. They took the common-sense way of obtaining information, went where the problem was being solved, and observed the practical workings of the system, they were called upon to investigate ; they sought for the lessons of actual experience, and listened to the words of the real laborers in the field. And in this way they obtained a mass of facts, which it is hard to gainsay, and which, as presented, must, we think, go far towards convincing any candid mind that Cornell has not taken an important step in a hurry, or without due caution.

Of course the correspondence which the committee carried on, and the results of their observations are not all given, and if they were it would be impossible for us to give even a tithe of them. We may, however, say that with a single exception the testimony of every person inquired of was favorable to co-education. Much of the correspondence was with the heads of Normal schools, and it is argued that the conditions are so nearly the same in Colleges and Normal schools that from the success of the latter in educating the sexes together it is fair to expect like success in the former. The observations of the committee at the various institutions, were well summed up in the speech of President White, in Boston, last winter, and they have already had a wide circulation in the educational press of the country. We will therefore pass over them and give some of the conclusions of the committee.

Their conclusions are given under various heads in the pamphlet, and seem to cover the ground thoroughly. Under the head "Effects on *Young Men,*" we are told that there seems no exception to the rule, that the admission of young women to Colleges and Universities, thus far, has tended to refine them. Dr. Fairchild, of Oberlin, says ; "We have found it the surest way to make men of boys and gentlemen of rowdies." And this refinement has been gained at no cost of manly qualities, and no increase of effeminacy. "From no Colleges," say the committee "did a more hardy, manly, brave body of young men go into our armies than from Antioch and Oberlin." Again the committee affirm that the facts which came under their own observation not less than the testimony of others who had had experience, favor the view that the presence of young women proves a powerful stimulus to study, and that the conscienciousness of women in study has a general elevating tone upon scholarship.

But though the effect of coeducation upon the young men be benficial, may it not be injurious to the young women ? Under this head several points are presented. And first health. And here there seems to be difference of opinion. Some eminent authorities aver that close study at this period of life is very detrimental. But the statistics given by the President of Oberlin College. and the observations of the committee among the lady students themselves go to show that the health of women in college is quite as good as out of it. Nothing at least was brought forward to show that the education of the sexes in company had anything to do in increasing the ill health of women. But the committee affirm that while they do not think the system proposed will result detrimentally in this respect, they still hold that adequate provisions should be made for physical culture commensurate with mental culture.

The effect of the proposed system on character and manners the committee found to be, to say the least, not detrimental. In their own words, they "found no opposing statement, either from college officers, students of either sex, or citizens of university towns, and all their observations failed to detect any symptons of any loss of the distinctively womanly qualities so highly prized." On the visit of the committee to Oberlin, they dined in the college hall with the students and both here and in the recitation rooms and in conversation with the students in their own rooms, they failed to detect anything that was not perfectly lady-like and refined.

Under the head of "Effects Common to Both Sexes," the subject of matrimonial engagements is referred to ; and on this point it is conceded that the students who mingle in the same college and the same class are likely to make preparations for marriage during the period of their student life. But it is urged in reference to such action that the study years are likewise the years when such engagements are most generally formed, and that they could not be formed under more favorable circumstances. "Certainly the choice of a companion for life made in such an atmosphere cannot be less safe than that which is made under the present system in the world at large." And to the objection that such engagements tend to distract the mind from study, it is answered, that practically, it has been found, that on the contrary they act as a powerful stimulant to study. And still further, it is urged that it is a well known matter of observation that students attending colleges as they now exist do form attachments, and that it is generally found that they are steadied thereby. With regard to illicit attachments, the committee state that "careful and confidential conversation and correspondence with men in position to know fully the value of this objection, fail to show any especial danger." In Michigan University, it was found that the male students had less social intercourse with the female students than with the daughters of citizens in the town, not in college. And the young lady students seemed to be on their guard against receiving too much attention from students of the opposite sex. And in Oberlin, although it is allowed that sporadic cases of scandal may occur, yet it is not to be feared that such cases of scandal will be more frequent

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than in the most carefully guarded seminaries under the old system or even in monastic institutions.

Under the head "Effects on the University" the subject of scholarship and the capacity of the female mind are treated. It is argued by some that the admission of women will tend to lower scholarship, or at least, to keep the faculty from steadily raising it. To this the committee answer "that all the facts observed are in opposition to this view. The letters received by the committee and their own recent observations in class rooms, show beyond a doubt that the young women are at least the equals of the young men in collegiate studies." In Michigan University, it was found that the best Greek scholar a few years since, the best mathematical scholar to-day, and several among the highest in natural science and in the general course of study are young women. And to show that want of accuracy and "Sloppiness" in study would not result from the inovation the translation from Tacitus which the committee heard at Oberlin, done by a women, and the work of the ladies at Antioch College in the most difficult of the great modern languages are cited. Still further it is said that no better examination for admission to Cornell has been passed than by a young lady who applied two years ago. A long letter is also given from Walter Smith, State Director of Art Education in Massachusetts, whose testimony is that women are not only capable of excelling but even surpassing men in art study. Moreover, whether the admission of women would not cause a disturbance in the colleges as they now exist, would not cause them to lose character, would not in short raise a breeze both among the male students and in the community, is sufficiently answered by the testimony of Michigan University. Says, Professor Cooley of the Law Department, Chief Justice of the State and a resident near the university grounds, "The admission of women has scarcely caused a ripple on the surface of university matters. * * * As yet I have witnessed no evil result whatever.

There are other points in the report which it would be interesting to touch upon but we must be content with what we have already cited for the present. Taken as a whole, however, we may say that almost if not quite every point discussed is so treated as to be an argument for the ceoducation of the sexes. How much Mr. Sage's proposal tended to produce this result it is difficult to say. There are indications throughout the pamphlet that it was written by a pleader rather than by a judge. Moreover we should like to see a report from the minority of the committee. But notwithstanding, we regard the document as a valuable contribution to the discussion. The facts accumulated cannot well be set aside, and we commend their candid perusal to the heads of educational institutions throughout the country and to those interested in them. In short, we can but regard this report as a confirmatory indication of the ultimate general success of the movement of which it treats.

LITERARY.

Boston Illustrated.*—Boston here presents herself to the notice of the general public, after the fashion already set by New York and Philadelphia. The illustrations are excellent specimens of the engraver's art, and are so well drawn as to be recognized at a glance. The text is mainly historical and descriptive, and is valuable. The book is well printed on tinted paper and reflects much credit on its enterprising publishers. With it, is enclosed a supplement, the "Strangers' New Guide Through Boston and Vicinity," giving a large amount of useful information, of much value at any time, but just now especially so.

* *Boston Illustrated.*—12 mo., pp. 124. Boston: 1872. J. R. Osgood & Co.

The Popular Science Monthly for July must increase the favor with which this new enterprise has already been received. The opening article, on "Corals and Coral Architecture," by Elias Lewis, Jr., is an excellent condensation from Dana's new book, illustrated with some of its best cuts; Dr. Blandford's paper on "The Physiology of Emotion" is taken from the *Fortnightly Review;* A Giant Planet," from the *Cornhill Magazine,* is R. A. Proctor's account of the Planet Jupiter; De Quatrefages' papers are continued, this one being on "The Migrations of Man;" Prof. Voit's excellent paper on the "Digestibility of Vegetable and Animal Food," is translated from the *Revue Scientifique;* Herbert Spencer contributes an article on "Mr. Martmean and Evolution;" and Rev. S. Lockwood one on "Musical Mice;" Mr. Beecher's remarks on "The Study of Human Nature," are taken from the *Christian Union;* Prof. Kirkwood writes on "Astro-Meteorology;" Mr. A. S. Hewit prints his Address on "Iron and Civilization" delivered before the Am. Inst. of Mining Engineers; Onimus' lecture on "Nervous control of Animal Movements," is translated from the *Revue Scientifique;* "Ventilation and the Reason for It," by Dr. R. Angus Smith, and is from "*Air and Rain.* An excellent notice of Professor Dana, accompanied with a capital wood-cut portrait as a title-page, closes the list of articles, and the usual notes and miscellany complete the number.

Comfort's German Series.*—Professor Comfort has been remarkably successful in his German instruction books, which have received the unqualified commendation of many eminent teachers. The "Manual of German Conversation" now before us, is designed to follow his "German Course." It is a well arranged and classified series of such questions and answers as are needed in familiar or more formal conversation. To give breadth to the student's knowledge, a pretty complete collection of idiomatic expressions, a list of news items, and of advertisements is furnished. Frequent references to the German Course are given. The "First German Reader" is intended to follow the First Book in German, and contains a well selected collection of reading lessons with a full vocabulary.

* *A Manual of German Conversation,* to succeed the German Course. By George F. Comfort, A. M., etc., 12 mo., pp. viii, 239, 1871.

The First German Reader: to succeed the "First Book in German." By George F. Comfort, A. M., Professor of Modern Languages and Æsthetics, Syracuse University, N. Y. 12 mo., pp. x, 99, New York, 1872, Harper & Brothers.

Roscoe's Elementary Chemistry.*—We are glad to know that the success of this most excellent text-book is commensurate with its merits and that a third revision is called for in less than two years after the second. We notice that thirty pages of new and valuable matter have been added; treating of a new continuous chlorine process, of hydro-sulphurous acid, of silicon chloroform, etc., of atoms and molecules, of hydrogenium, of hydroxylamine, of isomerism, of hydroquinon and resorcin, and of alizarin. Four new wood cuts have also been added, and quite a number of new problems. We observe a few typographical errors retained from the last edition; and on p. 162, eleventh line from the bottom, silver *chloride* should read silver *nitrate.* We do not understand the names "Trivalent Alcohols" in the heading on p. 384, nor "tetravalent alcohols," and "hexavalint alcohols", p. 391; especially as alcohols with two hydroxyl groups are called *diatomic,* on p. 358. Cæ is given on p. 212 as the symbol of cæsium, while Cs is given in the table, p. 7. Knowing full well how unavoidable such errors are, we mention them only for the benefit of teachers using the book, and by no means to its discredit. The new edition has really improved what was before a most valuable book. B.

* *Lessons in Elementary Chemistry:* Inorganic and Organic. By Henry E. Roscoe, B. A., F. R. S., Professor of Chemistry in Owens College, Manchester. New Edition, 18 mo, pp. viii, 488. London and New York, 1871. Macmillan & Co.

COLLEGE COMMENCEMENTS.

The following College Commencements will be held during the week to come. The list is made out partly from catalogues in our office and partly from the table of collegiate institutions in the last Report of Hon. John Eaton, Jr., Commissioner of Education:

Howard College, Marion, Ala., Thursday, June 27.
University of Alabama, Tuscaloosa, Ala., Wednesday, June 26.
Atlanta University, Atlanta, Ga., Wednesday, June 26.
Chicago University, Chicago, Ill., Thursday, June 27.
Northwestern University, Evanston, Ill., Tuesday, June 25.
Knox College, Galesburgh, Ill., Thursday, June 27.
Indiana University, Bloomington, Ind., Thursday, June, 26.
Hanover College, Hanover. Ind., Thursday June 27.
Northwestern Christian University, Indianapolis, Ind., Monday, June 24.
University of Notre Dame, Notre Dame, Ind., Wednesday, June 26.
Earlham College, Earlham, Ind., Wednesday, June 26.
St. Meinrad's College, St. Meinrad, Iowa, Tuesday, June 25.
Upper Iowa University, Fayette, Iowa, Tuesday, June 25.
Iowa State University, Iowa City, Iowa, Wednesday, June 26.
Centre College, Danville, Ky., Thursday, June 27.
Louisiana State University, Baton Rouge, La., Wednesday, June 26.
Bates College, Lewiston, Me., Wednesday, June 26.
Loyola College, Baltimore, Md., Wednesday, June 26.
Rock Hill College, Elicott City, Md,, Thursday, June 27.
Mount St. Mary's College, Emmittsburgh, Md., Wednesday, June 26.
Calvert College, New Windsor, Md., Tuesday, June 25.
Boston College, Boston, Mass., Wednesday, June 26.
Harvard College, Cambridge, Mass., Wednesday, June 26.
Williams College, Williamstown; Mass., Thursday, June 27.
College of the Holy Cross, Worcester, Mass., Thursday, June 27.
Albion College, Albion, Mich., Wednesday, June 26.
Michigan University, Ann Arbor, Mich., Wednesday, June 26.
Carleton College, Northfield, Minn., Wednesday, June 26.
University of Minnesota, St. Anthony, Minn., Thursday, June 27.
Mississippi College, Clinton, Miss., Tuesday, June 25.
University of Mississippi, Oxford, Miss., Thursday, June 27.
Tongaloo University, Tongaloo, Miss., Friday, June 28.
University of Missouri, Columbia, Mo., Wednesday, June 27.
Lewis College, Glasgow, Mo., Thursday, June 19.
St, Louis University, St. Louis, Mo., Thursday, June 27.
Nebraska College, Nebraska City, Nebraska, Thursday June 27.
Dartmouth College, Hanover, N. H., Thursday, June 27.
College of New Jersey, Princeton, N. J., Wednesday, June 26.
Seton Hall College, South Orange, N. J., Wednesday, June 26.
St. Lawrence University, Canton, N. Y., Wednesday, June 26.
Hamilton College, Clinton. N. Y., Thursday, June 27.
St Johns College, Fordham, N. Y., Wednesday, June 26.
Cornell University, Ithaca, N. Y., Thursday, June 27.
College of the City of New York, New York City, Thursday, June 27.
Columbia College, New York City, Wednesday, June 26.
University of Rochester, Rochester, N. Y., Wednesday. June 26.
Syracuse University, Syracuse, N. Y., Thursday, June 27.
Wake Forest College, Forestville, N. C., Thursday, June 27.
Davidson College, Mecklenburgh Co., N. C., Thursday, June 27.
Ohio University, Athens, O., Friday, June 28.
St. Xavier College, Cincinnati, O., Wednesday, June 26.
Kenyon College, Gambier, O., Thursday, June 27.
Dennison University, Granville, O., Thursday, June 27.
Western Reserve College,, Hudson, O., Wednesday, June 26.
Franklin College, New Athens, O., Thursday, June 27.
Wittenberg College, Springfield, O., Thursday, June 27.
University of Wooster, Wooster, O., Wednesday, June 26.
Antioch College, Yellow Springs, O., Wednesday, June 26.
Ohio Wesleyan University, Delaware, O., Thursday, June 27.
Muhlenberg College, Allentown, Pa., Thursday, June 27.
Dickinson College, Carlisle, Pa., Thursday, June 27.
Pennsylvania College, Gettysburg, Pa., Thursday, June 27.
Franklin and Marshall College, Lancaster, Pa., Thursday, June 27.
Lewisburgh University, Lewisburgh, Pa., Tuesday, June 25.
Westminster College, New Wilmington, Pa., Thursday, June 27.
Western University, Pittsburgh, Pa., Tuesday, June 25.
Lehigh University, South Bethlehem, Pa., Thursday, June 27.
Swathmore College, Swathmore, Pa., Wednesday, June 26.
St. Vincents College, Westmoreland Co., Pa., Wednesday, June 26.
Ursinus College, Freeland, Pa., Thursday, June 27.
Brown University, Providence, R. I., Wednesday, June 26.
Wofford College, Spartanburgh, C. H., S. C., Wednesday, June 26.
Newberry College, Walhalla, S. C., Thursday, June 27.
University of St. Mary, Galvaston, Texas, Thursday, June 27.
Randolph Macon College, Ashland, Va., Thursday, June 27.
University of Virginia, University of Va., P. O., Va., Thursday, June 27.
Washington and Lee University, Lexington, Va., Thursday, June 27.
Lawrence University, Appleton, Wis., Thursday, June 27.
Milton College, Milton, Wis., Wednesday, June 26.
Ripon College, Ripon, Wis., Wednesday, June 26.
Columbian College, Washington, D. C., Wednesday, June 26.
Georgetown College, Georgetown, D. C., Thursday, June 27.
Allentown Female College, Allentown, Pa., Friday, June 28.

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Vassar College, Poughkeepsie, N. Y., Wednesday, June 26.

The following Theological Seminaries hold their anniversaries, during the coming week:

Theological Department, Howard College, Marion, Ala., Thursday, June 27.

Garrett Biblical Institute, Evanston, Ill., Thursday, June 27.

St. Joseph's Ecclesiastical Sem., Bardstown, Ky., Tuesday, June 25.

Theological school, Bates College, Lewiston, Me., Tuesday, June 25.

Divinity school, of Harvard University, Cambridge, Mass., Tuesday, June 25.

Hartwick Theological Sem., Hartwick, N. Y., Wednesday, June 26.

Theological Seminary, New York City, Friday June 28.

Theological Seminary, Gambier, O., Thursday, June 27.

Theological Department, Howard University, Washington, D. C., Tuesday, June 25.

The following Law Schools hold their annual Commencements during the week to come.

Law School, Chicago University, Chicago, Ill., Thursday, June 27.

Law Deparment, Iowa State University, Mt., Pleasant, Iowa, Thursday, June 27.

Law Department, Harvard University, Cambridge, Mass., Wednesday, June 26.

Law School, Hamilton College, Clinton, N. Y., Thursday, June 27.

Law Department, University of Virginia, Charlottsville, Va., Thursday, June 27.

ST. LOUIS LAW SCHOOL.

The graduating exercises of the class of 1872 in this young institution were held on the evening of May 6th. The exercises were opened with prayer by Rev. Dr. Dickey, after which the Chancellor introduced Alex Martin, Esq., who delivered a graceful and eloquent address before the graduating class. Mr. Henry Hitchcock, provost of the Law Department of the University, then stated the conditions of the examination which the candidates were required to pass. Some 125 printed questions, prepared by a committee selected for the purpose, were given to the students and their answers in writing without consultation with books and in a limited time were required. These answers were given to the examiners who judged them without knowing their authors and rejected all which did not come up to 3 in a scale of 5. Fifteen passed the required examination and received the degree of Bachelor of Laws. A prize of $50 was given to Mr. Henry E. Mills, Upper Alton, Ill., for the best thesis. Remarks were made by Chancellor Eliot before conferring the degrees and the exercises concluded with an address by Hon. Washington Adams.

MIAMI UNIVERSITY.

The forty-seventh commencement of this institution occurred on June 13. The exercises commenced at 9 o'clock in the morning and were of the usual character. The degrees of Bachelor of Arts, was conferred on a class of 17. The degree of Bachelor of Science was also conferred on one candidate. After the regular exercises, Rev. Andrew D. Hepburn, recently elected, was duly inaugurated as president. An address and charge to the president was delivered by Rev. Theo. E. Thomas, of Lane Seminary, in which he recalled many incidents connected with the early history of the university, and gave a resume of the same from its establishment to the present time. The oath of office was then administered, and the keys were delivered by the Hon. Fergus Anderson, President of the Board of Trustees. The new president then delivered his inaugural address.

VICTORIA UNIVERSITY, CANADA.

The annual commencement of this institution took place on Tuesday, May 27. Fourteen young men received the degree of B.A.; ten that of M.A., in course; forty two that of M.D. The honorary degree of LL.B., was conferred upon W. L. Payne, M.A., and that of LL.D., upon John Wilson, M.A., Rev. W. M. Punshon, M.A., and upon the president of the university, Rev. S. S. Nelles, D.D. Among the speakers at the Convocation were Rev. Luke H. Wiseman, Dr. Punshon, and Rev. T. B. Stephenson. The endowment subscription has reached $90,000, of which the sum of $60,000 has been paid in.

WILLIAM JEWELL COLLEGE, MO.

The exercises of commencement week at this institution began on Sunday, June 2nd, with the sermon before the Board of Ministerial Education by Rev. A. A. Kendrick, President-elect of Shurtleff College. In the afternoon the farewell prayer meeting was held. The exhibitions of the Literary Societies occurred on Monday and Tuesday evenings. On Tuesday forenoon the address before the Literary Societies, was delivered by Prof. Oren Root, jr., of the Carrollton High School. The closing exercises of the college occurred on Wednesday. After conferring diplomas on students, the honorary D.D., was conferred on Rev. C. H. Manly, President of Union University, Murfreesboro, Tenn., and that of LL.D., on Prof. T. P. Frister, of Columbian College, Washington, D. C.

RUTGERS COLLEGE, NEW BRUNSWICK, N. J.

The Commencement exercises at Rutgers this year began with the reading of the thesis of the graduating class in the Scientific Department in the college chapel, on Friday of last week, On Sunday the Baccalaureate sermon was delivered by President Campbell in the South Reformed Church. Tuesday was Alumni Day. The meeting of the alumni was well attended and was an occasion of considerable interest. John L. See, LL.D., was elected president for the ensuing year. The oration was delivered by Rev. Dr. A. W. Thompson of the First Reformed Church, of Twenty-first street New York.

The presentation of the portraits of Rev. Johannes Martinez Van Harlingen, one of the first trustees of the Rutgers College, and of the Rev. James Van Campen Romeyn, D.D., for thirty years a prominent trustee of the institution, was an event of considerable interest. At the opening of the new Geological Hall, Gov. Parker presided. The principal address of the occasion was by Rev. John A. Todd, D.D., of the class of 1845, of Tarrytown, N. Y., who occupied a considerable portion of his hour in ridiculing the theories of Darwin, Huxley, and Agassiz. The Junior Exhibition exercises were held Thursday evening, when nine speakers delivered their orations. Commencement was held in the First Reformed church, on Wednesday. The procession was proceeded by Dodworth's Band, and the exercises were of the usual character. The degree of Bachelor of Arts was conferred on a class of 18. Gov. Parker received the honorary degree of LL.D., and the degree of A.M., was conferred upon the following: Martin Bahler, Newark; Edgar Bergen, Brooklyn; Robert Doig, New Brunswick; Theodore D. Frazee, Staten Island; William Elliott Griffis, Yeddo, Japan; John Hart, New Brunswick; Robert C. Pruyn, Albany; Edward D. Shepard, Hudson, N. Y.; Nicholas Terhune, Patterson, N. J.; M. B. Vail, New York; John Talmadge Van Cleef, Jersey City.

COLLEGE RECORD.

Trinity College, (Hartford, Conn.)—The following is the order of exercises for Commencement week at Trinity: From June 27th, through July 3d, Annual Examinations. Thursday, July 4th, Holiday; Independence Day. Friday, July 5th, Class Day. Saturday, July 6th, Examinations for Honors. Sunday, July 7th, Baccalaureate Sermon. Monday, July 8th, Examinations for Honors. Tuesday, July 9th, Examinations for admission in the Cabinet, beginning at 9 A.M.; evening—oration before the Phi Beta Kappa, by the Rev. John Scarborough, M.A. Wednesday, July 10th, morning—Business Meeting of the Corporation, House of Convocation, and its Board of Fellows, noon—Business Meeting of the Phi Beta Kappa Society, P.M.; Informal Meeting of Alumni; evening—oration before the House of Convocation, by the Hon. Stewart L. Woodford, LL.D., on "The Methods and Morals of our Politics." Thursday, July 11th, Commencement.

Syracuse University, (Syracuse, N. Y.)—The following is the order of exercises for Commencement week, at this institution: Baccalaureate Sermon, by Daniel Steele, S.T.D., Sunday, June 23, at 10½ A.M., in the First Presbyterian church. Sermon before the Society of Religious Inquiry, by Rev. Wm. Lloyd, of Rochester, Sunday, June 23, at 7½ P.M., in the First Presbyterian church. Candidates for Admission will be examined in Latin, Monday, June 24; in Greek and Mathematics, Tuesday, June 25; and in the other Preparatory Studies, Wednesday, June 26. Examinations will commence at 9 A.M. Entrance Examinations will also be held in the same order, Monday, Tuesday, and Wednesday, August 26, 27, and 28. Annual Meeting of the Board of Trustees, Tuesday, June 25, at 9 A.M. Alumni Day, Wednesday, June 26, (Genesee Alumni will meet at the university at 10 A.M). Address before the University Senate, by J. P. Newman, D.D., Chaplain of the U. S. Senate, June 26, at 8 P.M., in Wieting Hall. Commencement, Thursday, June 27, at 9 A.M., in Wieting Hall.

Chicago Theological Seminary, (Chicago, Ill.)—The following in referenee to this institution is from the report of the Executive Committee and Board: "During the past year the Seminary has carried on its educational work with success, suffering but a temporary interruption, by the fire, of a few days. Prof. Geo. N. Boardman, D.D., has been inaugurated as Professor of Systematic Theology, and has discharged his duties with great acceptance. The students have been fifty in number, and a class of six was graduated in April. No large additions have been made during the year to the funds, yet several new scholarships have been founded. No loss of invested funds was suffered by the fire, though the means of many of the most generous friends of the institution were cut off or greatly diminished. It has been found necessary to make an immediate and vigorous effort to place the institution in all respects on a broad pecuniary basis, and especially to raise a permanent general fund to meet the large incidental expenses now without provision. To meet all the required ends, the Board has determined to secure as soon as possible, $250,000, and has called to the post of Financial Secretary, Rev. Dr. G. S. F. Savage, who will assume his official duties, July 1.

Wesleyan University, (Middletown, Conn,)—The Museum of this institution has recently received from various persons a number of interesting articles. Among these are: Nest and Young of red Squirrel; Architectural specimens from China; Gray Squirrel and skull of Raccoon; Snowy Owl, Little Auk, and Purple Gallinule; Pathological specimens; Great Northern Diver, Portland quarries; Specimens of Calamities; Collection of Cretaceous fossils from Mississippi; Skull of Raccoon; Mounted specimen of Great Horned Owl and Pickerel's Head; Indian Pestle; Living Golden Eagle, Vermont; Box of fossils from the phosphate beds of South Carolina, and lithological specimens from Florida; Bat from the East Haddam cave; Mounted specimen of King Penguin from the Pacific; Salt-water Gar Fish, Portland; Iron-ore, Amenia, N.Y.; Muskrat; Skin of Virginia Deer; Porcelain bricks, from the Emperor's Palace at Nankin China; Specimen of Calymenesenaria; Cast of Actec Calendar stone; Arab's Sword; Muscovy Ducks from Peru; Collection of shells; Humming Bird's Nest, and minerals; Collection of Tunicates and other Mollusks; Specimen of Native Reptiles; Collection of Bird Skins from Minnesota; Fur of Musk Ox, from Hudson's Bay; War Club, from Sandwich Islands; Collection of Fishes, made at Wood's Hole, Mass.

The museum has also received $130.00 for preparing and mounting specimens, of which J. B. Thomas, Jr., Boston, gave $30.00, and F. C. Gould, Cincinnati, $100.00.

College of New Jersey, (Princeton, N. J.)—The 125th anuual commencement of this institution takes place on

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Wednesday, June 26. The exercises of commencement week will be as follows:

Sunday, June 23, the Baccalaureate Sermon of the president to the graduating class of 1872, will be delivered at 11 o'clock A. M., in the First Presbyterian church. Monday, June 24th, Class Day exercises of the class of 1872. Tuesday, June 25th, the annual gymnastic exhibition by the students, under direction of the superintendent, Mr. George Goldie, will take place in the gymnasium from 9 to 10½ o'clock A. M. Open to the public without tickets. The annual oration before the literary societies will be delivered by the Hon. Frederick T. Frelinghuysen, U. S. Senator from New Jersey, at 11 o'clock A. M., in the First Presbyterian church. The annual meetings of the literary societies will take place in their respective halls after the conclusion of the oration. The annual meeting of the Alumni Association will take place in the chapel at 3½ o'clock P. M. The junior orations, by representatives of the literary societies, will be delivered in the Second Presbyterian church, at 8 o'clock P. M. Wednesday, June 26, the annual commencement. At 9 A. M. the procession of officers, students, alumni, and guests will be formed at the College Chapel, by the Marshal, Professor Joseph Karge, and move to the First Presbyterian church, where the commencement orations will be pronounced, the degrees conferred, and the prizes and fellowships announced. Alumni dinner at 2½ o'clock P. M., in Examination Hall. Examinations for admission will be held on Saturday, June 22, and Thursday, June 27

Yale College (New Haven, Conn.)—All who are interested in Yale will be pleased to know that the sum of $23,000 has very recently been added to the fund given some years since by Joseph Battell, Esq., for the erection of a new Chapel, and that the authorities of the University will proceed immediately to settle upon the plans for the building and break ground for the foundation. Among those who have recently contributed to the fund mentioned, are S. B. Chittenden, of New York, who gave $5,000, W. E. Dodge, $3,000 in addition to a former gift of $5,000, Moses Taylor, $3,000, and George Bliss $2,000. The new Chapel will probably stand on the corner of College and Elm streets, near Farnam Hall.

The news of the week at Yale is meagre. The classes are all engaged in examinations and but little is transpiring.

Mr. Jos. E. Sheffield has written a letter declining to be a candidate for alumni member of the corporation.

The Berkeley Prizes for Latin Composition in the Sophomore class have been announced as follows: First Prizes, H. W. Farnam, New Haven; W. Parkin, New York City; J. W. Peck, Brooklyn, N. Y.; A. B. Thacher, New Haven. Second Prizes: H. Baldwin, Canterbury; E. A. Bouchet, New Haven; G. L. Fox, New Haven; T. W. Grover, Chicago, Ill; H. A. James, Baltimore, Md.; F. H. Olmsted, Hartford, Conn.

The following Sophomores are to speak for Declamation prizes on the evening of Presentation Day: G. M. Gunn, Milford, Conn; H. P. Hatch, Brooklyn, N. Y.; E. M. Lyon, Detroit, Mich.; E. Mendell, New Bedford, Mass.; H. H. Ragan, Turin, N. Y.; H. B. B. Stapler, Wilmington, Del.; G. W. Stearns, West Hartford, Conn.; T. P. Wickes, New York City.

It is said that fifteen or twenty members of '72 are going abroad immediately after graduation.

One of the episodes of the recent series of ball games between Harvard and Yale, was the offer by Mr. Eli Hill of a splendid silver mounted bat and ball to the member of the Yale Nine who should make the most 1st base hits in the series. The prize was awarded to George Richards.

GLEANINGS.

PERSONAL.

—Rev. A. K. Packard of Anoka is to deliver the annual address at the close of the academic year of Carleton College, at Northfield, Minn.

— The Baccalaureate Sermon at Tufts College was preached last Sunday in the college chapel, by President Miner.

— Prof. J. P. Lacroix of Ohio, Wesleyan University at Delaware, O., spends his vacation during July and August, traveling in Switzerland.

— Dr. McCabe of Ohio, Wesleyan University has recently delivered in Delaware, O., a series of three lectures in which a new view of Divine Foreknowledge is taken. The lectures have excited quite a sensation.

— Dr. A. P. Peabody preached the Baccalaureate Sermon at Harvard last Sunday. The text was "I press toward the mark," the sense of which was first brought out by the paraphrase, "I am less what I seem to be than what I aim to be."

COLLEGE.

— More than eighty colleges hold their annual commencements during the coming week.

— Three Nonconformist students have been elected to foundation scholarships at Trinity College, Cambridge.

— The college of the city of New York received $25,000 from Controller Green, on Wednesday last.

— Work was commenced on the Union College chapel, Schenectady, several weeks since. The foundation walls are now about completed.

— The thirty-second annual convention of the Chi Phi (college Fraternity will take place June 27 and 28, with Alpha Chi, at Amherst College.

An election is to be held on June 26, at Harvard for five Overseers to take the place of those whose time expires on that day.

— The twenty-seventh annual meeting of the New York State Teachers' Association, will be held in the Town Hall, Saratoga Springs, July 23, 24 and 25, 1872.

— Mr. George L. Osgood, who graduated from Harvard University in 1866, is said to have achieved brilliant success in Berlin, in music. He has studied there for five years past.

— Miss Lottie Ray, a colored graduate of the Howard University Law School, was last week admitted to the bar of the Supreme Court of the District of Columbia.

— Mr Thomas J. Morton a member of Beloit College has invented an apparatus for avoiding the "dead point" in crank motions which has been patented and seems to promise to be entirely successful. It is claimed to save one-half in power.

— The 36th anniversary of the Hartford Theological Seminary occurred on Tuesday of last week. There were eight graduates. The two new professors of the institution, Rev. Mr. Riddle and Rev. T. S. Childs, were inaugurated Wednesday.

— Senior examinations at Wesleyan University begin Wednesday, the 26th inst., at 9 A. M. Thursday, the 27th, the class of '72 celebrate their "class day." Public exercises on the college campus at 2:30, P. M., and in McDonough Hall, at 7:30, P. M.

— A large college, under the direction of European professors, has just been opened at Quito. In this college there are schools of art, including painting and sculpture, a polytechnic and an astronomical observatory, which are in full operation and working satisfactorily

— At the recent entrance examination at the Massachusetts Institute of Technology sixty-four students were admitted, sixty-two to the first and two to the second year. This is an increase of thirteen over the corresponding examination last year, and indicates a new class of over one hundred.

— The head of the buffalo cow killed by the Grand Duke Alexis, last winter. has been preserved, and will be forwarded to him at St. Petersburg. Prof. Henry Ward, of Rochester University, secured the head and had it stuffed as a relic. The head is a noble one, and is to be mounted on a black walnut frame.

— Wilbraham Academy Commencement exercises will open on Sunday, June 23, with the annual sermon by Rev. J. W. Beach. The examinations begin on Monday, June 24. Trustee meeting, June 28, at 2 P.M. The alumni address Tuesday, June 25, at half past seven P.M., by Rev. I. G. Bidwell. Commencement Wednesday, June 26. at 9 A.M.

— The Psi Upsilon college fraternity held its 39th annual convention at Amherst College, with Daniel G. Thompson as president, and closed its re-union with a visit to Mount Holyoke, and a dinner with toasts and speeches, and a poem at Fitch's hotel in Northampton. The usual poem and oration were omitted. Three business meetings were held.

— Messrs. G. & C. Merriam, the Publishers, recently filled an order for 16 copies of Webster's Unabridged, from Colombo, capital of the island of Ceylon, in the East Indies. During May, they had two orders from Japan, one of 80, and one of 36 copies; also, one of 12 copies from Constantinople; 99 copies also went to the China and Japan market in April, from San Francisco.

— On the death of F. L. A. Pioche, of San Francisco, a short time ago, he bequeathed to the University of California, all his paintings, sketches, engravings, drawings, and objects of art, and all the books comprising his library; also, his mineralogical and geological collections; also, $5,000 to classify and arrange the articles mentioned in a suitable room. He had previously donated some valuable books to the University Library.

— The telegraph brought the report Wednesday morning last, that the small-pox had broken out in Dickinson College, Carlisle, Penn., and that the students were leaving. Thursday morning brought the news that the small-pox excitement had subsided. There had been but one case among the students, and the person afflicted was removed to the hospital. There are only seven cases in Carlisle, and not over twenty cases had occurred in that place. Class and commencement day are to be celebrated as usual.

— The Rev. Robert Collyer has made and delivered to Cornell University the famous horse shoe about which so much has been said, and for which $2,000 was paid. The genial preacher delivered the horse shoe a few evenings ago after having previously delivered a lecture to the people of Ithaca. It bore the inscription "Robert Collyer maker." It is said to be a fine piece of blacksmith's handiwork and will be treasured in the museum of the University as a precious souvenir.

— At the recent anniversary of the Divinity School connected with Tufts College, the services began with the singing of a selection by the choir, followed by the invocation by Professor C. H. Leonard. A hymn, written for the occasion by the Rev. John G. Adams, was then sung, after which John Coleman Adams read an essay on "The Ministry of the Future." The second essay was entitled "Our New Departure," and was read by Edward A Drew. After the singing of a hymn, the address to the class was delivered by the Rev. E. H. Capen of Providence, and the exercises were brought to a close by the singing of the doxology.

— The commencement exercises of the New Hamp, Conference Seminary and Female College, at Tilton, will be as follows: Sunday, June 23d, 1 P. M., Baccalaureate by President Robinson; at 5 P. M., love feast. Examinations 24th and 25th. Monday evening, 24th, annual address by the Rev. I. G. Bidwell, A. M., of Worcester, Mass. Tuesday, 25th at 11½ A. M., meeting of trustees; at 3, P. M., anniversary of alumni association; oration by S. W. Osgood, Esq., of Boston, class of 1853; poem, Mrs. A. M. Johnson Howe, Jamaica Plain, Mass., class of 1855; at 8 P. M., alumni festival, historical reports, &c. Wednesday, June 26, commencement. Music, Williams band, Haverhill, Mass.

— Work on the new Hall for Carleton College at Northfield, Minn., is progressing rapidly, and will be completed before the opening of the next year, Sept. 11. It is a fine structure of blue limestone,—three stories high, above the basement,—and stands out prominently upon a bluff overlooking the Cannon river. It is an ornament to the town. This young College has a broad field—there being but two or three collegiate institutions in the state, which is larger than all New England. The past year has been one of marked prosperity.

— It has been definitely decided that Williams college will be represented at the great college regatta at Springfield, Mass., on the 23d of July, at which the seven leading colleges of the country will contend. After a thorough trial, the crew has been selected and authorized by the club, as follows: T. W. Saunders, '73; H. T. Scholl, '73; J. P. Worden, '73; F. Townsend, Jr., '73; J. Gunster, '74; and F. Johnson, '75. The crew have gone into training, and row every evening at 6. The men will average 155 pounds, and are all about of a size.

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"Josh Billings,"	"Oliver Optic,"
George A. Marden,	Rev. Mark Trafton,
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